

On page 48, line 14, delete "oleocetylhydroxyethylammonium" and replace with

a1 --oleocetyltrimethylhydroxyethylammonium--.

On page 49, line 9, in formula (VII), change " $_2 X^-$ " to $--2 X^-$.

IN THE CLAIMS:

Please cancel claims 1 and 9-31 without prejudice or disclaimer, amend claims 2-8, and add new claims 32-77 as follows:

In claim 2, lines 1-2, delete "Composition according to claim 1, characterized in that" and replace with ~~A composition according to claim 32, wherein~~.

a2 on page 80, line 2, after "(I51);", delete "and";

on page 80, line 4, after "(I53);", insert --and--;

on page 80, line 6, delete ";" and insert a period after "(I54)".

a3 3. (Amended) A composition [Composition] according to Claim 2, [characterized in that] wherein the cationic direct dyes are chosen from the compounds having [correspond to the] structures (I1), (I2), (I14), and (I31).

a4 In claim 4, lines 1-2, delete "Composition according to claim 1, characterized in that" and replace with ~~A composition according to claim 32, wherein~~.

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In claim 5, lines 1-2, delete "Composition according to claim 1, characterized in that" and replace with ~~A composition according to claim 32, wherein~~.

a5

6. (Amended) A composition [Composition] according to Claim 5, [characterized in that] wherein the cationic direct dyes of formula (III) are chosen from the compounds [corresponding to the] having structures (III4), (III5) and (III13).

a6

In claim 7, lines 1-2, delete "Composition according to claim 1, characterized in that" and replace with ~~A composition according to claim 32, wherein~~.

a7

In claim 8, lines 1-2, delete "Composition according to claim 1, characterized in that" and replace with ~~A composition according to claim 32, wherein~~.

a8

on page 104, line 1, after "(IV)₇₆", insert --; and--.

on page 104, line 2, insert a period after "(IV)₇₇".

Please add new claims 32 to 77 as follows:

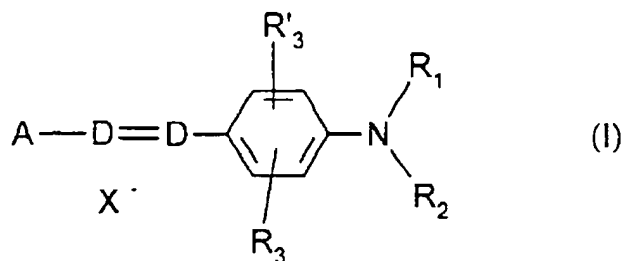
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--32. A composition for dyeing keratinous fibers comprising, in a medium suitable for dyeing,

(i) at least one cationic direct dye chosen from:

a) cationic direct dyes of formula (I):



in which:

D is a nitrogen atom or a -CH group,

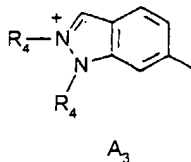
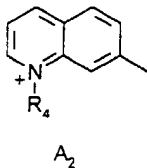
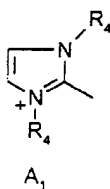
R₁ and R₂, which are identical or different, are chosen from a hydrogen atom; a C₁-C₄ alkyl radical which is unsubstituted or substituted with a -CN, -OH or -NH₂ radical or form with each other or a carbon atom of the benzene ring a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with at least one C₁-C₄ alkyl radical; and a 4'-aminophenyl radical,

a9
Cont

R_3 and R'_3 , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a cyano radical; a C_1 - C_4 alkyl radical; a C_1 - C_4 alkoxy radical; and an acetyloxy radical,

X^- is an anion,

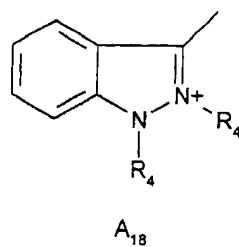
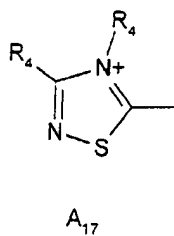
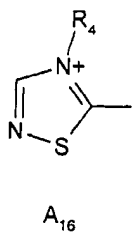
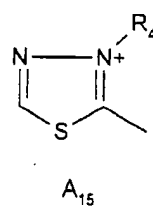
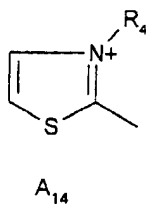
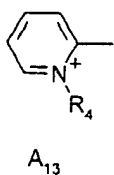
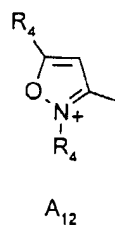
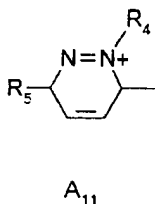
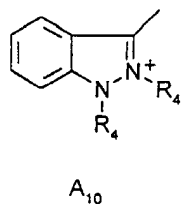
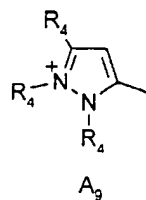
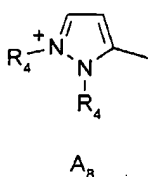
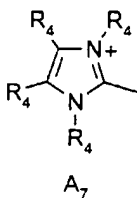
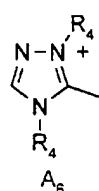
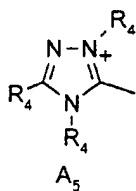
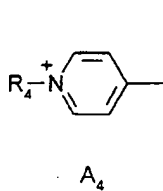
A is a group chosen from the following structures A_1 to A_{19} :



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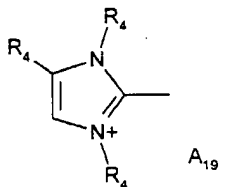
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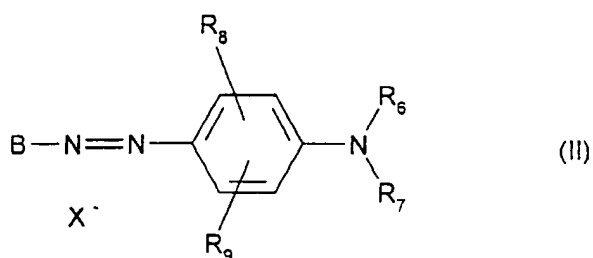
and



in which R₄ is a C₁-C₄ alkyl radical which is unsubstituted or substituted with a hydroxyl radical and R₅ is a C₁-C₄ alkoxy radical,

with the proviso that when D represents -CH, A is A₄ or A₁₃ and R₃ is different from an alkoxy radical, then R₁ and R₂ are not simultaneously hydrogen atoms;

b) cationic direct dyes of formula (II):



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in which:

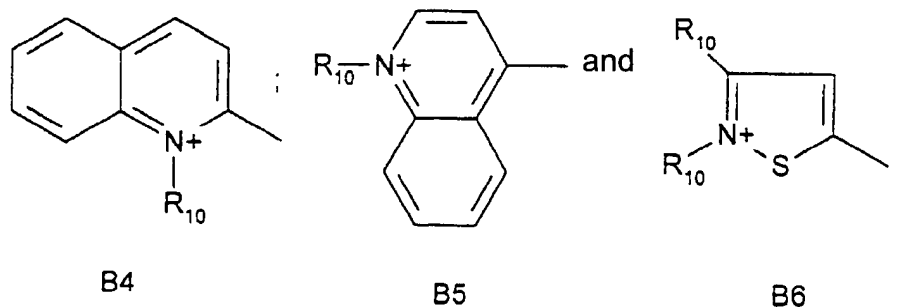
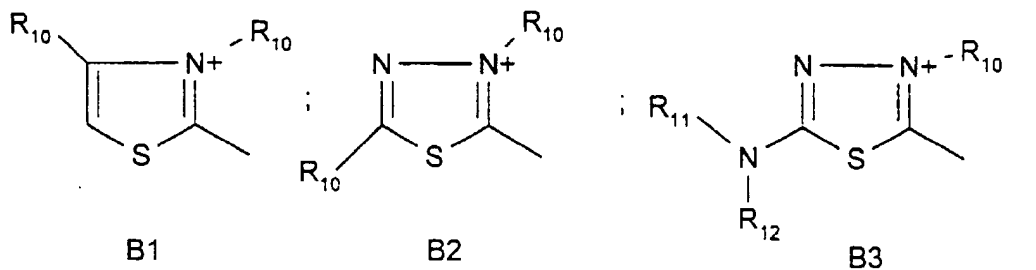
R_6 is a hydrogen atom or a C_1 - C_4 alkyl radical,

R_7 is chosen from a hydrogen atom; an alkyl radical which is unsubstituted or substituted with a -CN radical or with an amino group; and a 4'-aminophenyl radical, or forms with R_6 a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with a C_1 - C_4 alkyl radical,

R_8 and R_9 , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from bromine, chlorine, fluorine, and iodine; a C_1 - C_4 alkyl radical; a C_1 - C_4 alkoxy radical; and a -CN radical,

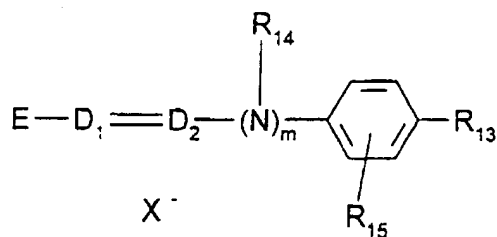
X^- is an anion,

B represents a group chosen from the following structures B1 to B6:

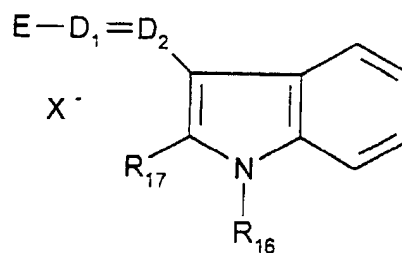


in which R_{10} is a C_1 - C_4 alkyl radical, R_{11} and R_{12} , which are identical or different, are a hydrogen atom or a C_1 - C_4 alkyl radical;

c) cationic direct dyes of the following formula (III) and formula (III'):



(III)



(III')

in which:

R_{13} is chosen from a hydrogen atom, a C_1 - C_4 alkoxy radical, a halogen atom chosen from bromine, chlorine, fluorine, and iodine; and an amino radical,

R_{14} is a hydrogen atom, a C_1 - C_4 alkyl radical or forms with a carbon atom of the benzene ring a heterocycle which is optionally oxygen-containing and is unsubstituted or substituted with at least one C_1 - C_4 alkyl group,

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R_{15} is a hydrogen or halogen atom chosen from bromine, chlorine, fluorine, and iodine,

R_{16} and R_{17} , which are identical or different, are a hydrogen atom or a C_1 - C_4 alkyl radical,

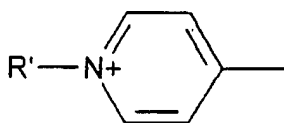
D_1 and D_2 , which are identical or different, are a nitrogen atom or a -CH group,

$m = 0$ or 1 ,

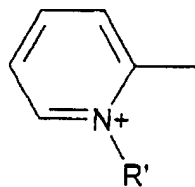
with the proviso that when R_{13} is an unsubstituted amino group, then D_1 and D_2 simultaneously are -CH groups and $m = 0$,

X^- is an anion,

E is a group chosen from the following structures E1 to E8:

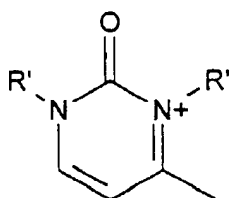


E1

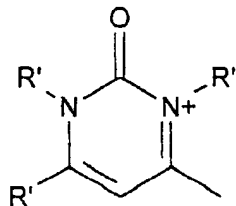


E2

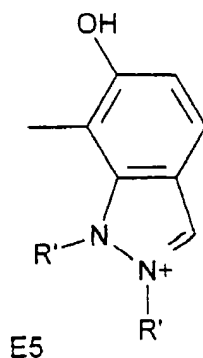
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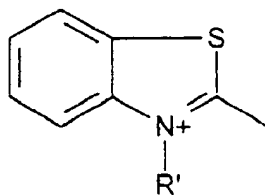
E3



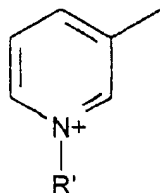
E4



E5

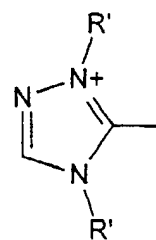


E6



E7

and



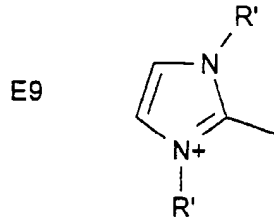
E8

in which R' is a C₁-C₄ alkyl radical;

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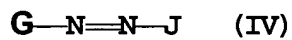
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when $m = 0$ and D_1 is a nitrogen atom, then E may also be a group having the following structure E9:



in which R' is a C_1 - C_4 alkyl radical, and

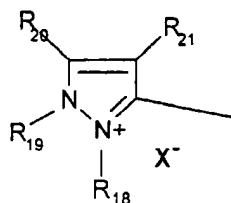
d) cationic direct dyes of formula (IV):



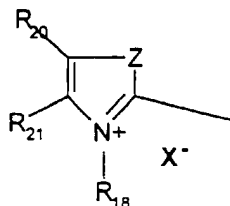
in which:

the symbol G is a group chosen from the following structures G_1 to G_3 :

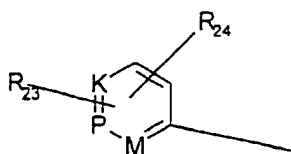
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G₁



G₂



G₃

in which structures G₁ to G₃,

R₁₈ is chosen from a C₁-C₄ alkyl radical; a phenyl radical which is unsubstituted or substituted with a C₁-C₄ alkyl radical or with a halogen atom chosen from chlorine, bromine, iodine and fluorine;

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R_{19} is a C_1 - C_4 alkyl radical or a phenyl radical;

R_{20} and R_{21} , which are identical or different, are chosen from a C_1 - C_4 alkyl radical and a phenyl radical, or form together in G_1 a benzene ring which is substituted with at least one radical chosen from C_1 - C_4 alkyl, C_1 - C_4 alkoxy and NO_2 radicals, or form together in G_2 a benzene ring which is optionally substituted with at least one radical chosen from C_1 - C_4 alkyl, C_1 - C_4 alkoxy and NO_2 radicals;

R_{20} may also be a hydrogen atom;

Z is an oxygen or sulphur atom or an $-NR_{19}$ group;

M is a group chosen from $-CH$; $-CR$ wherein R is C_1 - C_4 alkyl; and $-NR_{22}(X^-)_r$;

K is a group chosen from $-CH$; $-CR$ wherein R is C_1 - C_4 alkyl; and $-NR_{22}(X^-)_r$;

P is a group chosen from $-CH$; $-CR$ wherein R denotes C_1 - C_4 alkyl; and $-NR_{22}(X^-)_r$ where r is zero or 1;

R_{22} is chosen from an O^- atom, a C_1 - C_4 alkoxy radical and a C_1 - C_4 alkyl radical;

R_{23} and R_{24} , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a C_1 - C_4 alkyl radical; a C_1 - C_4 alkoxy radical; and an $-NO_2$ radical;

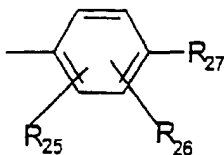
X^- is an anion;

wherein J is chosen from:

-(a) a group having the following structure J_1 :

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J₁

in which structure J₁,

R₂₅ is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a C₁-C₄ alkyl radical; a C₁-C₄ alkoxy radical; and a radical chosen from -OH, -NO₂, -NHR₂₈, -NR₂₉R₃₀, and -NHCO(C₁-C₄alkyl), or forms with R₂₆ a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen and sulphur;

R₂₆ is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a C₁-C₄ alkyl radical; and a C₁-C₄ alkoxy radical, or forms with R₂₇ or R₂₈ a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen or sulphur;

R₂₇ is chosen from a hydrogen atom, an -OH radical, an -NHR₂₈ radical, and an -NR₂₉R₃₀ radical;

R₂₈ is chosen from a hydrogen atom, a C₁-C₄ alkyl radical, a C₁-C₄ monohydroxyalkyl radical, a C₂-C₄ polyhydroxyalkyl radical, and a phenyl radical;

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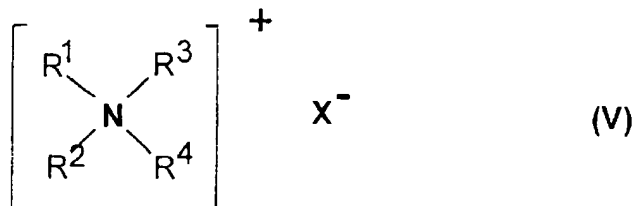
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R₂₉ and R₃₀, which are identical or different, are chosen from a C₁-C₄ alkyl radical, a C₁-C₄ monohydroxyalkyl radical, and a C₂-C₄ polyhydroxyalkyl radical; and

-(b) a 5- or 6- membered nitrogen-containing heterocycle group which optionally contains additional heteroatoms, carbonyl-containing groups, or a mixture of additional heteroatoms and carbonyl-containing groups and which is unsubstituted or substituted with at least one radical chosen from C₁-C₄ alkyl, amino and phenyl radicals, and

(ii) at least one quaternary ammonium salt chosen from:

(ii)₁ - quaternary ammonium salts of the following formula (V):



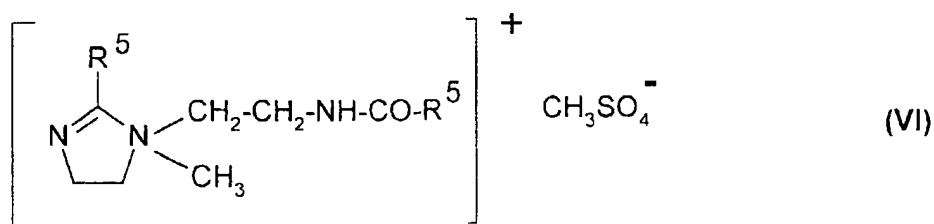
in which

the radicals R¹, R², R³, and R⁴, which are identical or different, are chosen from a saturated or unsaturated, linear or branched, aliphatic hydrocarbon radical comprising 1 to 30 carbon atoms; and a radical chosen from alkoxy, alkoxycarbonylalkyl, polyoxyalkylene, alkylamido, alkylamidoalkyl, hydroxyalkyl,

aromatic, aryl and alkylaryl radicals comprising 12 to 30 carbon atoms, wherein at least one radical among R¹, R², R³ and R⁴ is a radical comprising 8 to 30 carbon atoms;

X⁻ is an anion chosen from halides, phosphates, acetates, lactates and alkyl sulphates;

(ii)₂ - imidazolium salts of the following formula (VI):



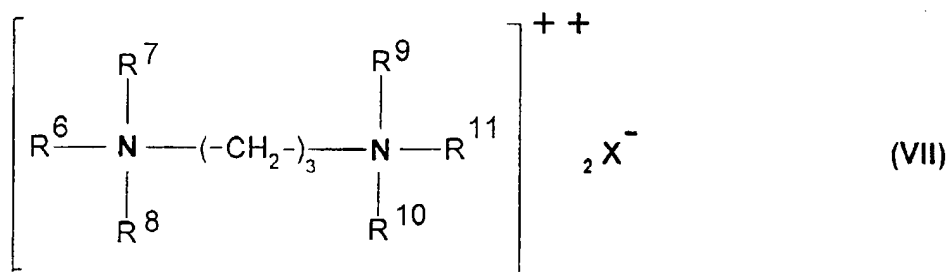
in which

R⁵ is chosen from alkenyl radicals and alkyl radicals, said alkenyl radicals and alkyl radicals comprising 13 to 31 carbon atoms and being derived from tallow fatty acids;

(ii)₃ - quaternary diammonium salts of the following formula (VII):

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in which

R⁶ is an aliphatic radical comprising 16 to 30 carbon atoms,

R⁷, R⁸, R⁹, R¹⁰ and R¹¹ are chosen from hydrogen or an alkyl radical comprising 1 to 4 carbon atoms, and X⁻ is an anion chosen from halides, acetates, phosphates and sulphates.

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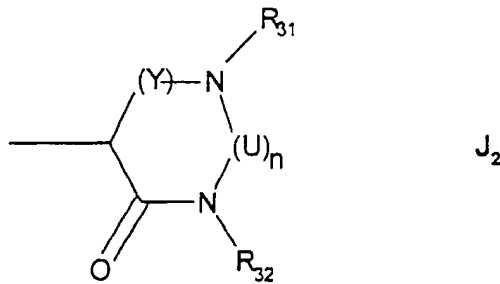
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33. A composition according to Claim 32, wherein in the definition of said at least one cationic direct dye of formulas (I), (II), (III), and (III'), X- is chosen from chloride, methylsulphate, and acetate.

34. A composition according to claim 32, wherein in the definition of said cationic direct dyes of formula (IV), in G₁ and G₂, X⁻ is chosen from chloride, iodide, methylsulphate, ethylsulphate, acetate and perchlorate.

35. A composition according to Claim 32, wherein in the definition of said cationic direct dyes of formula (IV), the 5- or 6- membered nitrogen containing heterocycle group of J is chosen from groups having the structure J₂ below:



in which structure J₂,

R₃₁ and R₃₂, which are identical or different, are chosen from a hydrogen atom, a C₁-C₄ alkyl radical, and a phenyl radical;

Y is a -CO- radical or the radical $\begin{array}{c} \text{CH}_3 \\ | \\ \text{---C=} \end{array}$; and

n = 0 or 1, wherein when n is 1, U is a -CO- radical.

36. A composition according to Claim 32, wherein said at least one cationic direct dye is present in an amount ranging from 0.001 to 10% by weight of the total weight of the composition.

37. A composition according to Claim 36, wherein said at least one cationic direct dye is present in an amount ranging from 0.005 to 5% by weight of the total weight of the composition.

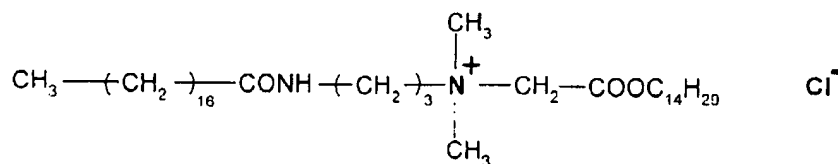
38. A composition according to Claim 32, wherein the quaternary ammonium salt of formula (V) is a dialkyldimethylammonium or alkyltrimethylammonium salt in which the alkyl radical comprises 12 to 22 carbon atoms.

39. A composition according to Claim 38, wherein the quaternary ammonium salt of formula (V) is distearyldimethylammonium chloride, cetyltrimethylammonium chloride, or behenyltrimethylammonium chloride.

40. A composition according to Claim 32, wherein the quaternary ammonium salt of formula (V) is a di(C₁-C₂ alkyl)(C₁₂-C₂₂alkyl)hydroxy(C₁-C₂alkyl)ammonium salt.

41. A composition according to Claim 40, wherein the quaternary ammonium salt of formula (V) is oleocetyldimethylhydroxyethylammonium chloride.

42. A composition according to Claim 32, wherein the quaternary ammonium salt of formula (V) is stearamidopropyldimethyl (myristyl acetate) ammonium chloride of formula:



43. A composition according to Claim 32, wherein said at least one quaternary ammonium salt is present in an amount ranging from 0.01 to 10% by weight of the total weight of the composition.

44. A composition according to Claim 43, wherein said at least one quaternary ammonium salt is present in an amount ranging from 0.05 to 5% by weight of the total weight of the composition.

45. A composition according to Claim 32, wherein said medium suitable for dyeing comprises water or a mixture of water and at least one organic solvent.

46. A composition according to Claim 32, wherein the composition has a pH ranging from 2 to 11.

47. A composition according to Claim 46, wherein the pH ranges from 5 to 10.

48. A composition according to Claim 32, further comprising at least one oxidation base chosen from para-phenylenediamines, bis-phenylalkylenediamines, para-aminophenols, ortho-aminophenols and heterocyclic bases.

49. A composition according to Claim 48, wherein said at least one oxidation base is present in an amount ranging from 0.0005 to 12% by weight of the total weight of the composition.

50. A composition according to Claim 49, wherein said at least one oxidation base is present in an amount ranging from 0.005 to 6% by weight of the total weight of the composition.

51. A composition according to Claim 48, further comprising at least one coupler chosen from meta-phenylenediamines, meta-aminophenols, meta-diphenols and heterocyclic couplers.

52. A composition according to Claim 51, wherein said at least one coupler is present in an amount ranging from 0.0001 to 10% by weight of the total weight of the composition.

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*There are many things worth doing
in this world, but none more so than
to see the world as it really is.*

[illegible]

*There are many things worth doing
in this world, but none more so than
to see the world as it really is.*

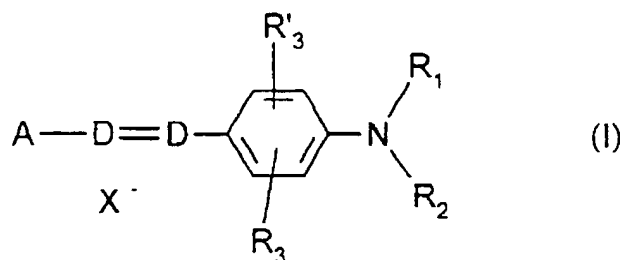
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61. A method for dyeing keratinous fibers, comprising:

applying to said keratinous fibers for a time sufficient to develop a desired color,
a composition comprising, in a medium suitable for dyeing,

(i) at least one cationic direct dye chosen from:

a) cationic direct dyes of formula (I):



in which:

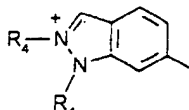
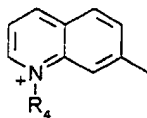
D is a nitrogen atom or a -CH group,

R₁ and R₂, which are identical or different, are chosen from a hydrogen atom; a C₁-C₄ alkyl radical which is unsubstituted or substituted with a -CN, -OH or -NH₂ radical or form with each other or a carbon atom of the benzene ring a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with at least one C₁-C₄ alkyl radical; and a 4'-aminophenyl radical,

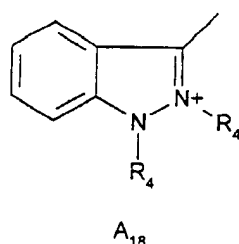
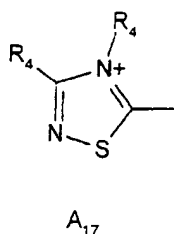
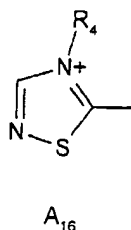
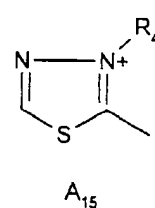
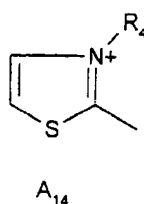
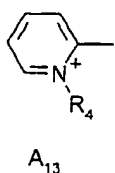
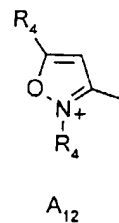
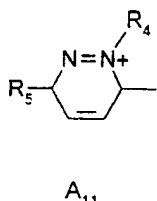
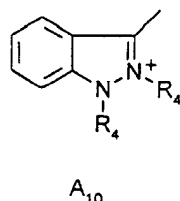
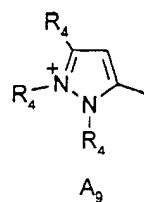
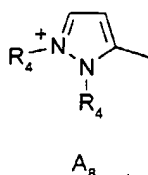
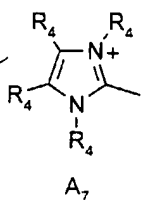
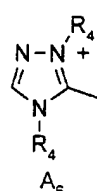
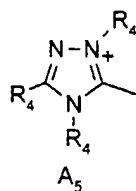
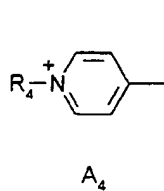
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X^- is an anion,

R4N1=C(C)C=CN1R4

*29
Cont*



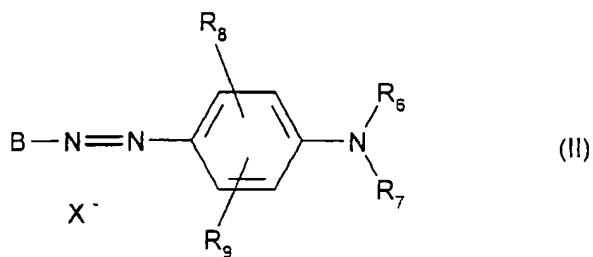
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Cc1cc(R4)[n+](R4)c1R4 A_{19}

1990b) have used high quality data from
 a random survey of 1000 men, in an effort
 to control for bias that would result from
 self-selection. They found that the

b) cationic direct dyes of formula (II):



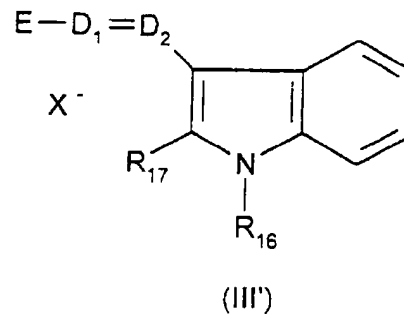
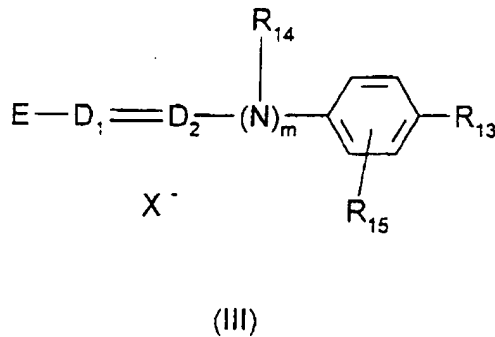
in which:

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in which R_{10} is a C_1 - C_4 alkyl radical, R_{11} and R_{12} , which are identical or different, are a hydrogen atom or a C_1 - C_4 alkyl radical;

c) cationic direct dyes of the following formula (III) and formula (III'):



in which:

R_{13} is chosen from a hydrogen atom, a C_1 - C_4 alkoxy radical, a halogen atom chosen from bromine, chlorine, fluorine, and iodine; and an amino radical,

R_{14} is a hydrogen atom, a C_1 - C_4 alkyl radical or forms with a carbon atom of the benzene ring a heterocycle which is optionally oxygen-containing and is unsubstituted or substituted with at least one C_1 - C_4 alkyl group,

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R₁₆ and R₁₇, which are identical or different, are a hydrogen atom or a C₁-C₄ alkyl radical,

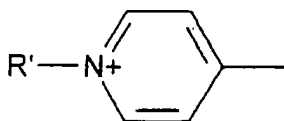
D₁ and D₂, which are identical or different, are a nitrogen atom or a -CH group,

$$m = 0 \text{ or } 1,$$

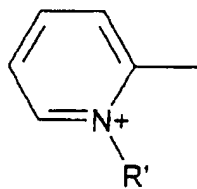
with the proviso that when R_{13} is an unsubstituted amino group, then D_1 and D_2 simultaneously are -CH groups and $m = 0$,

X^- is an anion,

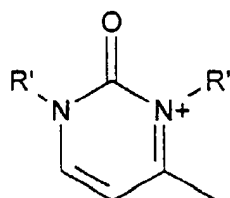
E is a group chosen from the following structures E1 to E8:



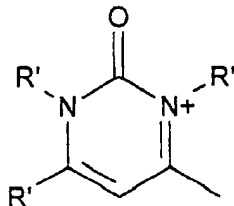
E1



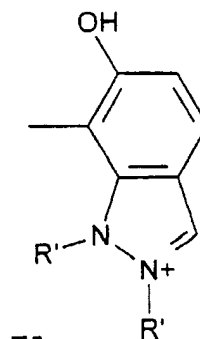
E2



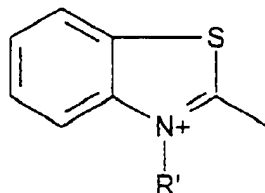
E3



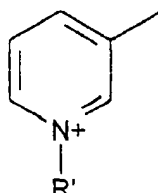
E4



E5

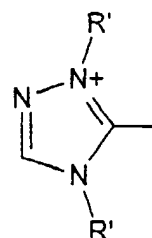


E6



E7

and



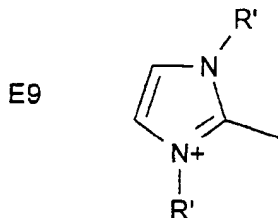
E8

in which R' is a C₁-C₄ alkyl radical;

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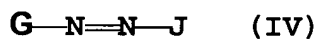
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when $m = 0$ and D_1 is a nitrogen atom, then E may also be a group having the following structure E9:



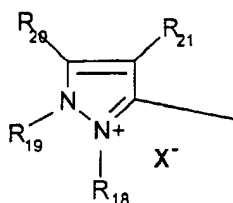
in which R' is a C_1 - C_4 alkyl radical, and

d) cationic direct dyes of formula (IV):

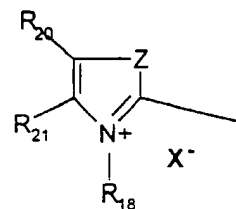


in which:

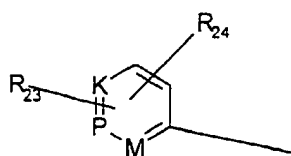
the symbol G is a group chosen from the following structures G_1 to G_3 :



G₁



G₂



G₃

in which structures G₁ to G₃,

R₁₈ is chosen from a C₁-C₄ alkyl radical; a phenyl radical which is unsubstituted or substituted with a C₁-C₄ alkyl radical or with a halogen atom chosen from chlorine, bromine, iodine and fluorine;

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A9
Con4
R₁₉ is a C₁-C₄ alkyl radical or a phenyl radical;

R₂₀ and R₂₁, which are identical or different, are chosen from a C₁-C₄ alkyl radical and a phenyl radical, or form together in G₁ a benzene ring which is substituted with at least one radical chosen from C₁-C₄ alkyl, C₁-C₄ alkoxy and NO₂ radicals, or form together in G₂ a benzene ring which is optionally substituted with at least one radical chosen from C₁-C₄ alkyl, C₁-C₄ alkoxy and NO₂ radicals;

R₂₀ may also be a hydrogen atom;

Z is an oxygen or sulphur atom or an -NR₁₉ group;

M is a group chosen from -CH; -CR wherein R is C₁-C₄ alkyl; and -NR₂₂(X⁻);

K is a group chosen from -CH; -CR wherein R is C₁-C₄ alkyl; and -NR₂₂(X⁻)_r;

P is a group chosen from -CH; -CR wherein R denotes C₁-C₄ alkyl; and -NR₂₂(X⁻)_r where r is zero or 1;

R₂₂ is chosen from an O⁻ atom, a C₁-C₄ alkoxy radical and a C₁-C₄ alkyl radical;

R₂₃ and R₂₄, which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a C₁-C₄ alkyl radical; a C₁-C₄ alkoxy radical; and an -NO₂ radical;

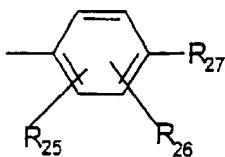
X⁻ is an anion;

wherein J is chosen from:

-(a) a group having the following structure J₁:

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J₁

in which structure J₁,

R₂₅ is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a C₁-C₄ alkyl radical; a C₁-C₄ alkoxy radical; and a radical chosen from -OH, -NO₂, -NHR₂₈, -NR₂₉R₃₀, and -NHCO(C₁-C₄alkyl), or forms with R₂₆ a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen and sulphur;

R₂₆ is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a C₁-C₄ alkyl radical; and a C₁-C₄ alkoxy radical, or forms with R₂₇ or R₂₈ a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen or sulphur;

R₂₇ is chosen from a hydrogen atom, an -OH radical, an -NHR₂₈ radical, and an -NR₂₉R₃₀ radical;

R₂₈ is chosen from a hydrogen atom, a C₁-C₄ alkyl radical, a C₁-C₄ monohydroxyalkyl radical, a C₂-C₄ polyhydroxyalkyl radical, and a phenyl radical;

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(ii) at least one quaternary ammonium salt chosen from:

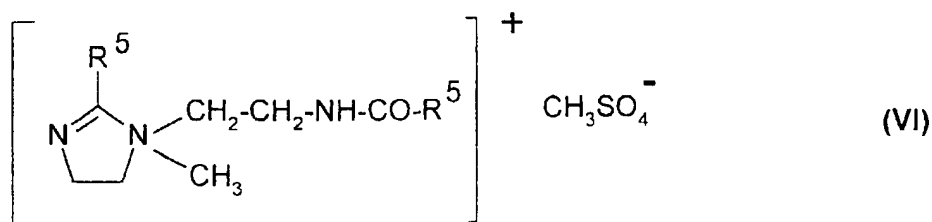
$$\left[\begin{array}{cc} R^1 & R^3 \\ & N \\ R^2 & R^4 \end{array} \right]^+ X^- \quad (V)$$

the radicals R¹, R², R³, and R⁴, which are identical or different, are chosen from a saturated or unsaturated, linear or branched, aliphatic hydrocarbon radical comprising 1 to 30 carbon atoms; and a radical chosen from alkoxy, alkoxycarbonylalkyl, polyoxyalkylene, alkylamido, alkylamidoalkyl, hydroxyalkyl,

aromatic, aryl and alkylaryl radicals comprising 12 to 30 carbon atoms, wherein at least one radical among R¹, R², R³ and R⁴ is a radical comprising 8 to 30 carbon atoms;

X⁻ is an anion chosen from halides, phosphates, acetates, lactates and alkyl sulphates;

(ii)₂ - imidazolium salts of the following formula (VI):



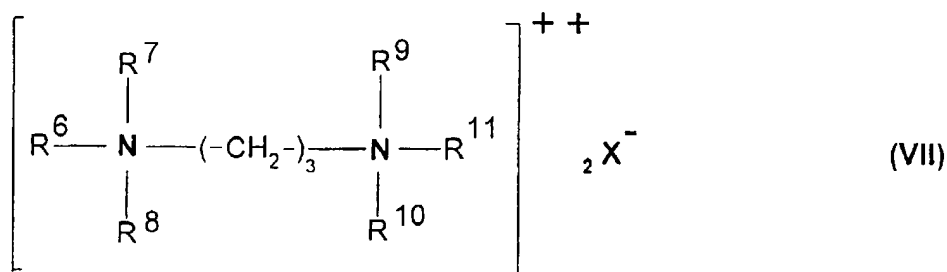
in which

R⁵ is chosen from alkenyl radicals and alkyl radicals, said alkenyl radicals and alkyl radicals comprising 13 to 31 carbon atoms and being derived from tallow fatty acids;

(ii)₃ - quaternary diammonium salts of the following formula (VII):

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in which

R⁶ is an aliphatic radical comprising 16 to 30 carbon atoms,

R⁷, R⁸, R⁹, R¹⁰ and R¹¹ are chosen from hydrogen or an alkyl radical comprising 1 to 4 carbon atoms, and X⁻ is an anion chosen from halides, acetates, phosphates and sulphates.

62. A method according to claim 61, further comprising rinsing said keratinous fibers after applying said composition thereon.

63. A method according to claim 62, further comprising washing said keratinous fibers with shampoo after said rinsing; and rinsing again said keratinous fibers after said washing.

64. A method according to claim 63, further comprising, after said washing and rinsing, drying said keratinous fibers.

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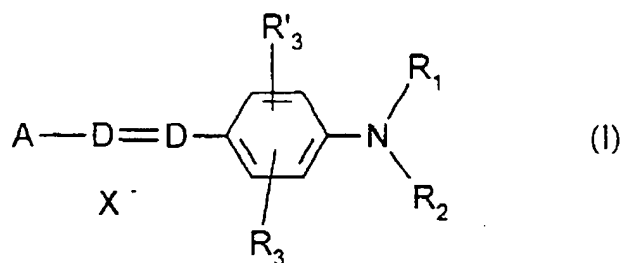
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 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082 2083 2084 2085 2086 2087 2088 2089 2090 2091 2092 2093 2094 2095 2096 2097 2098 2099 2100 2101 2102 2103 2104 2105 2106 2107 2108 2109 2110 2111 2112 2113 2114 2115 2116 2117 2118 2119 2120 2121 2122 2123 2124 2125 2126 2127 2128 2129 2130 2131 2132 2133 2134 2135 2136 2137 2138 2139 2140 2141 2142 2143 2144 2145 2146 2147 2148 2149 2150 2151 2152 2153 2154 2155 2156 2157 2158 2159 2160 2161 2162 2163 2164 2165 2166 2167 2168 2169 2170 2171 2172 2173 2174 2175 2176 2177 2178 2179 2180 2181 2182 2183 2184 2185 2186 2187 2188 2189 2190 2191 2192 2193 2194 2195 2196 2197 2198 2199 2200 2201 2202 2203 2204 2205 2206 2207 2208 2209 2210 2211 2212 2213 2214 2215 2216 2217 2218 2219 2220 2221 2222 2223 2224 2225 2226 2227 2228 2229 2230 2231 2232 2233 2234 2235 2236 2237 2238 2239 2240 2241 2242 2243 2244 2245 2246 2247 2248 2249 2250 2251 2252 2253 2254 2255 2256 2257 2258 2259 2260 2261 2262 2263 2264 2265 2266 2267 2268 2269 2270 2271 2272 2273 2274 2275 2276 2277 2278 2279 2280 2281 2282 2283 2284 2285 2286 2287 2288 2289 2290 2291 2292 2293 2294 2295 2296 2297 2298 2299 2300 2301 2302 2303 2304 2305 2306 2307 2308 2309 2310 2311 2312 2313 2314 2315 2316 2317 2318 2319 2320 2321 2322 2323 2324 2325 2326 2327 2328 2329 2330 2331 2332 2333 2334 2335 2336 2337 2338 2339 2340 2341 2342 2343 2344 2345 2346 2347 2348 2349 2350 2351 2352 2353 2354 2355 2356 2357 2358 2359 2360 2361 2362 2363 2364 2365 2366 2367 2368 2369 2370 2371 2372 2373 2374 2375 2376 2377 2378 2379 2380 2381 2382 2383 2384 2385 2386 2387 2388 2389 2390 2391 2392 2393 2394 2395 2396 2397 2398 2399 2400 2401 2402 2403 2404 2405 2406 2407 2408 2409 2410 2411 2412 2413 2414 2415 2416 2417 2418 2419 2420 2421 2422 2423 2424 2425 2426 2427 2428 2429 2430 2431 2432 2433 2434 2435 2436 2437 2438 2439 2440 2441 2442 2443 2444 2445 2446 2447 2448 2449 2450 2451 2452 2453 2454 2455 2456 2457 2458 2459 2460 2461 2462 2463 2464 2465 2466 2467 2468 2469 2470 2471 2472 2473 2474 2475 2476 2477 2478 2479 2480 2481 2482 2483 2484 2485 2486 2487 2488 2489 2490 2491 2492 2493 2494 2495 2496 2497 2498 2499 2500 2501 2502 2503 2504 2505 2506 2507 2508 2509 2510 2511 2512 2513 2514 2515 2516 2517 2518 2519 2520 2521 2522 2523 2524 2525 2526 2527 2528 2529 2530 2531 2532 2533 2534 2535 2536 2537 2538 2539 2540 2541 2542 2543 2544 2545 2546 2547 2548 2549 2550 2551 2552 2553 2554 2555 2556 2557 2558 2559 2560 2561 2562 2563 2564 2565 2566 2567 2568 2569 2570 2571 2572 2573 2574 2575 2576 2577 2578 2579 2580 2581 2582 2583 2584 2585 2586 2587 2588 2589 2590 2591 2592 2593 2594 2595 2596 2597 2598 2599 2600 2601 2602 2603 2604 2605 2606 2607 2608 2609 2610 2611 2612 2613 2614 2615 2616 2617 2618 2619 2620 2621 2622 2623 2624 2625 2626 2627 2628 2629 2630 2631 2632 2633 2634 2635 2636 2637 2638 2639 2640 2641 2642 2643 2644 2645 2646 2647 2648 2649 2650 2651 2652 2653 2654 2655 2656 2657 2658 2659 2660 2661 2662 2663 2664 2665 2666 2667 2668 2669 2670 2671 2672 2673 2674 2675 2676 2677 2678 2679 2680 2681 2682 2683 2684 2685 2686 2687 2688 2689 2690 2691 2692 2693 2694 2695 2696 2697 2698 2699 2700 2701 2702 2703 2704 2705 2706 2707 2708 2709 2710 2711 2712 2713 2714 2715 2716 2717 2718 2719 2720 2721 2722 2723 2724 2725 2726 2727 2728 2729 2730 2731 2732 2733 2734 2735 2736 2737 2738 2739 2740 2741 2742 2743 2744 2745 2746 2747 2748 2749 2750 2751 2752 2753 2754 2755 2756 2757 2758 2759 2760 2761 2762 2763 2764 2765 2766 2767 2768 2769 2770 2771 2772 2773 2774 2775 2776 2777 2778 2779 2780 2781 2782 2783 2784 2785 2786 2787 2788 2789 2790 2791 2792 2793 2794 2795 2796 2797 2798 27

keratinous fibers.

hair.

67. A method for dyeing keratinous fibers, comprising
separately storing a first composition and a second composition;
mixing said first composition with said second composition before applying the
resultant mixture to said keratinous fibers; and
applying said mixture to the keratinous fibers,
wherein said first composition comprises, in a medium suitable for dyeing, at
least one oxidation base and
at least one cationic direct dye chosen from:

a) cationic direct dyes of formula (I):



in which:

D is a nitrogen atom or a -CH group,

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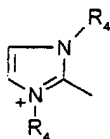
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R_1 and R_2 , which are identical or different, are chosen from a hydrogen atom; a C_1 - C_4 alkyl radical which is unsubstituted or substituted with a $-CN$, $-OH$ or $-NH_2$ radical or form with each other or a carbon atom of the benzene ring a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with at least one C_1 - C_4 alkyl radical; and a 4'-aminophenyl radical,

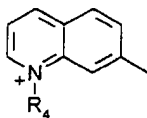
R_3 and R'_3 , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a cyano radical; a C_1 - C_4 alkyl radical; a C_1 - C_4 alkoxy radical; and an acetyloxy radical,

X^- is an anion,

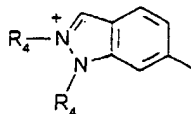
A is a group chosen from the following structures A_1 to A_{19} :



A_1

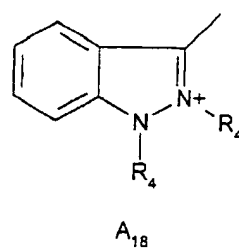
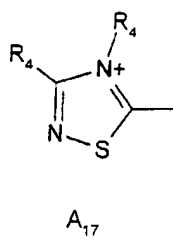
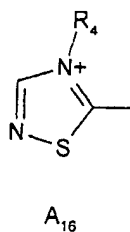
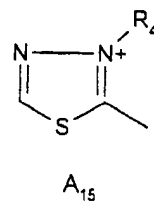
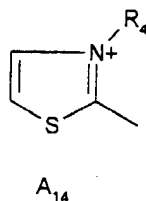
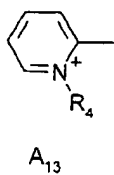
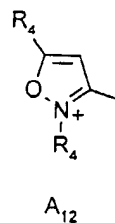
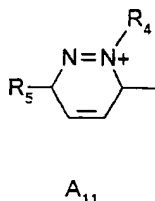
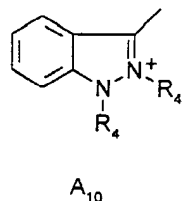
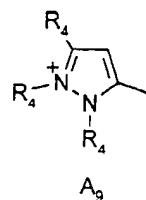
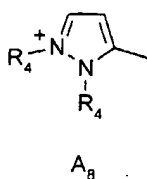
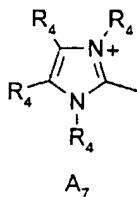
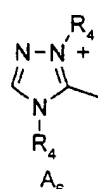
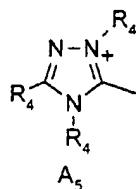
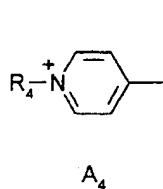


A_2



A_3

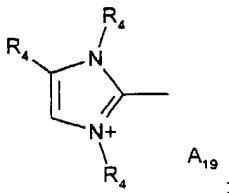
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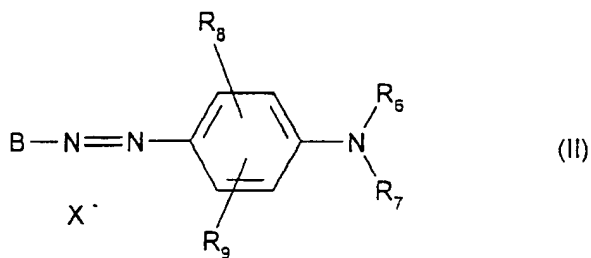
and



in which R₄ is a C₁-C₄ alkyl radical which is unsubstituted or substituted with a hydroxyl radical and R₅ is a C₁-C₄ alkoxy radical,

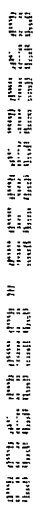
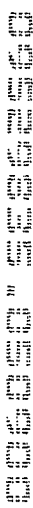
with the proviso that when D represents -CH, A is A₄ or A₁₃ and R₃ is different from an alkoxy radical, then R₁ and R₂ are not simultaneously hydrogen atoms;

b) cationic direct dyes of formula (II):



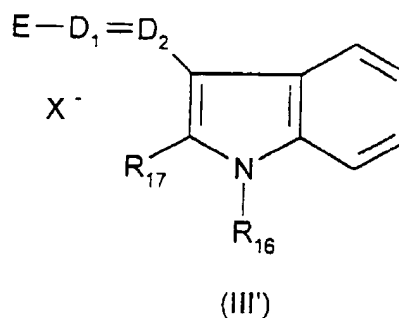
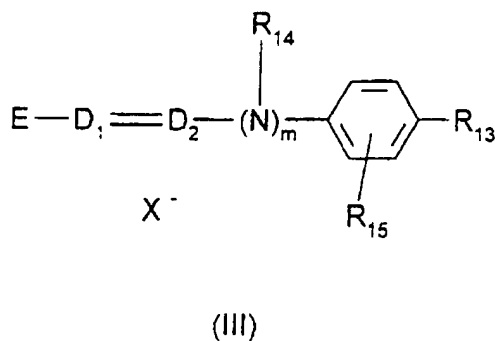
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[illegible][illegible][illegible][illegible][illegible][illegible]

in which R_{10} is a C_1 - C_4 alkyl radical, R_{11} and R_{12} , which are identical or different, are a hydrogen atom or a C_1 - C_4 alkyl radical;

c) cationic direct dyes of the following formula (III) and formula (III'):



in which:

R_{13} is chosen from a hydrogen atom, a C_1 - C_4 alkoxy radical, a halogen atom chosen from bromine, chlorine, fluorine, and iodine; and an amino radical,

R_{14} is a hydrogen atom, a C_1 - C_4 alkyl radical or forms with a carbon atom of the benzene ring a heterocycle which is optionally oxygen-containing and is unsubstituted or substituted with at least one C_1 - C_4 alkyl group,

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R_{15} is a hydrogen or halogen atom chosen from bromine, chlorine, fluorine, and iodine,

R_{16} and R_{17} , which are identical or different, are a hydrogen atom or a C_1 - C_4 alkyl radical,

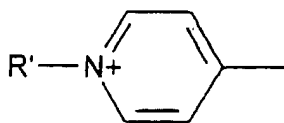
D_1 and D_2 , which are identical or different, are a nitrogen atom or a -CH group,

$m = 0$ or 1 ,

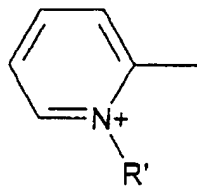
with the proviso that when R_{13} is an unsubstituted amino group, then D_1 and D_2 simultaneously are -CH groups and $m = 0$,

X^- is an anion,

E is a group chosen from the following structures E1 to E8:



E1



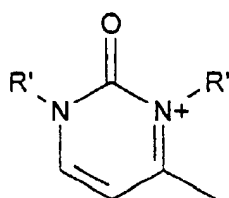
E2

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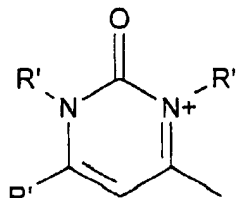
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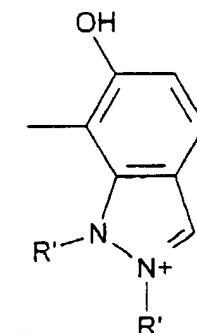
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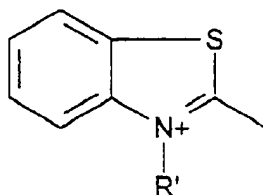
E3



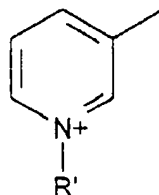
E4



E5

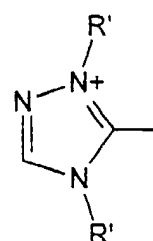


E6



E7

and



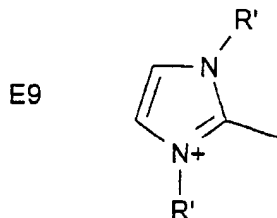
E8

in which R' is a C₁-C₄ alkyl radical;

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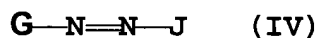
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when $m = 0$ and D_1 is a nitrogen atom, then E may also be a group having the following structure E9:



in which R' is a C_1 - C_4 alkyl radical, and

d) cationic direct dyes of formula (IV):



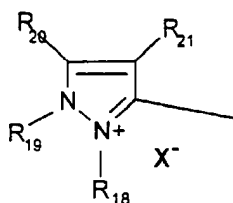
in which:

the symbol G is a group chosen from the following structures G_1 to G_3 :

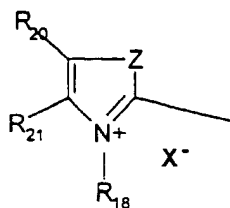
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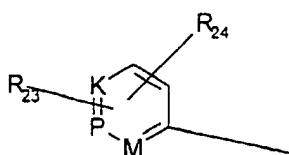
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G₁



G₂



G₃

in which structures G₁ to G₃,

R₁₈ is chosen from a C₁-C₄ alkyl radical; a phenyl radical which is unsubstituted or substituted with a C₁-C₄ alkyl radical or with a halogen atom chosen from chlorine, bromine, iodine and fluorine;

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R_{19} is a C_1 - C_4 alkyl radical or a phenyl radical;

R_{20} and R_{21} , which are identical or different, are chosen from a C_1 - C_4 alkyl radical and a phenyl radical, or form together in G_1 a benzene ring which is substituted with at least one radical chosen from C_1 - C_4 alkyl, C_1 - C_4 alkoxy and NO_2 radicals, or form together in G_2 a benzene ring which is optionally substituted with at least one radical chosen from C_1 - C_4 alkyl, C_1 - C_4 alkoxy and NO_2 radicals;

R_{20} may also be a hydrogen atom;

Z is an oxygen or sulphur atom or an $-NR_{19}$ group;

M is a group chosen from $-CH$; $-CR$ wherein R is C_1 - C_4 alkyl; and $-NR_{22}(X^-)_r$;

K is a group chosen from $-CH$; $-CR$ wherein R is C_1 - C_4 alkyl; and $-NR_{22}(X^-)_r$;

P is a group chosen from $-CH$; $-CR$ wherein R denotes C_1 - C_4 alkyl; and $-NR_{22}(X^-)_r$ where r is zero or 1;

R_{22} is chosen from an O^- atom, a C_1 - C_4 alkoxy radical and a C_1 - C_4 alkyl radical;

R_{23} and R_{24} , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a C_1 - C_4 alkyl radical; a C_1 - C_4 alkoxy radical; and an $-NO_2$ radical;

X^- is an anion;

wherein J is chosen from:

-(a) a group having the following structure J_1 :

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R₂₅ is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a C₁-C₄ alkyl radical; a C₁-C₄ alkoxy radical; and a radical chosen from -OH, -NO₂, -NHR₂₈, -NR₂₉R₃₀, and -NHCO(C₁-C₄alkyl), or forms with R₂₆ a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen and sulphur;

R₂₆ is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a C₁-C₄ alkyl radical; and a C₁-C₄ alkoxy radical, or forms with R₂₇ or R₂₈ a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen or sulphur;

R₂₇ is chosen from a hydrogen atom, an -OH radical, an -NHR₂₈ radical, and an -NR₂₉R₃₀ radical;

R₂₈ is chosen from a hydrogen atom, a C₁-C₄ alkyl radical, a C₁-C₄ monohydroxyalkyl radical, a C₂-C₄ polyhydroxyalkyl radical, and a phenyl radical;

R₂₉ and R₃₀, which are identical or different, are chosen from a C₁-C₄ alkyl radical, a C₁-C₄ monohydroxyalkyl radical, and a C₂-C₄ polyhydroxyalkyl radical; and

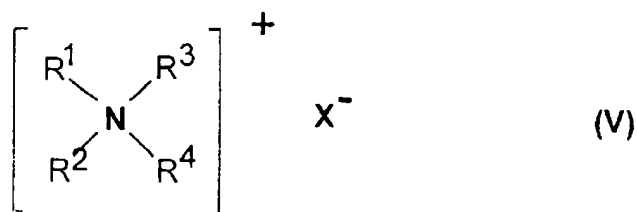
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-(b) a 5- or 6- membered nitrogen-containing heterocycle group which optionally contains additional heteroatoms, carbonyl-containing groups, or a mixture of additional heteroatoms and carbonyl-containing groups and which is unsubstituted or substituted with at least one radical chosen from C₁-C₄ alkyl, amino and phenyl radicals, and

wherein said second composition comprises, in a medium suitable for dyeing, at least one oxidizing agent; and

wherein either said first composition or said second composition further comprises at least one quaternary ammonium salt chosen from:

(ii)₁ - quaternary ammonium salts of the following formula (V):



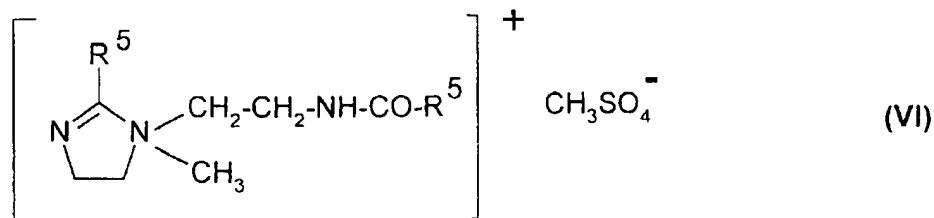
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the radicals R^1 , R^2 , R^3 , and R^4 , which are identical or different, are chosen from a saturated or unsaturated, linear or branched, aliphatic hydrocarbon radical comprising 1 to 30 carbon atoms; and a radical chosen from alkoxy, alkoxycarbonylalkyl, polyoxyalkylene, alkylamido, alkylamidoalkyl, hydroxyalkyl, aromatic, aryl and alkylaryl radicals comprising 12 to 30 carbon atoms, wherein at least one radical among R^1 , R^2 , R^3 and R^4 is a radical comprising 8 to 30 carbon atoms;

X^- is an anion chosen from halides, phosphates, acetates, lactates and alkyl sulphates;

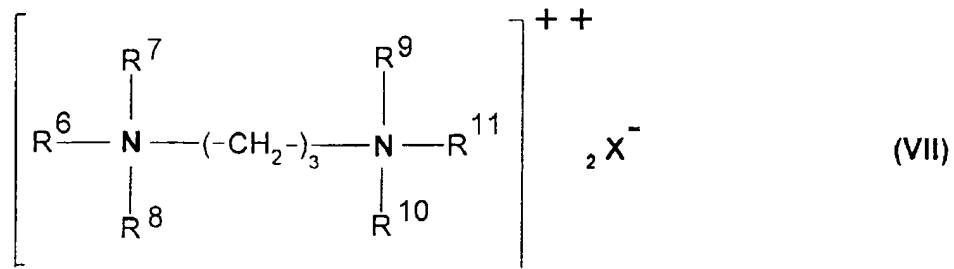
(ii)₂ - imidazolium salts of the following formula (VI):



in which

R⁵ is chosen from alkenyl radicals and alkyl radicals, said alkenyl radicals and alkyl radicals comprising 13 to 31 carbon atoms and being derived from tallow fatty acids;

(ii)₃ - quaternary diammonium salts of the following formula (VII):



in which

R⁶ is an aliphatic radical comprising 16 to 30 carbon atoms,

R⁷, R⁸, R⁹, R¹⁰ and R¹¹ are chosen from hydrogen or an alkyl radical comprising 1 to 4 carbon atoms, and X⁻ is an anion chosen from halides, acetates, phosphates and sulphates.

68. A method according to claim 67, wherein said keratinous fibers are human keratinous fibers.

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69. A method according to claim 68, wherein said human keratinous fibers are

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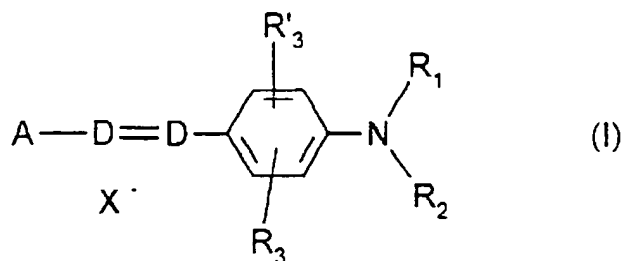
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70. A method for dyeing keratinous fibers, comprising
separately storing a first composition and a second composition;
mixing said first composition with said second composition before applying the
resultant mixture to said keratinous fibers; and
applying said mixture to the keratinous fibers,
wherein said first composition comprises, in a medium suitable for dyeing:
at least one cationic direct dye chosen from:

a) cationic direct dyes of formula (I):



in which:

D is a nitrogen atom or a -CH group,

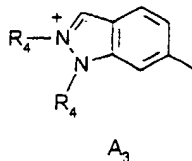
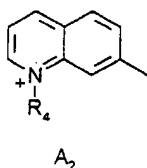
R₁ and R₂, which are identical or different, are chosen from a hydrogen
atom; a C₁-C₄ alkyl radical which is unsubstituted or substituted with a -CN, -OH or -NH₂

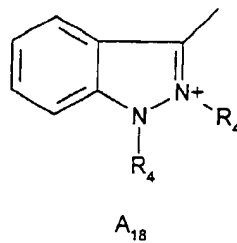
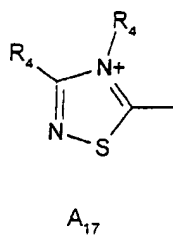
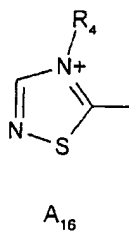
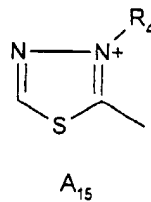
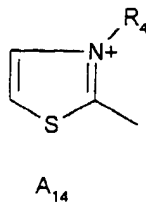
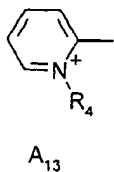
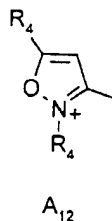
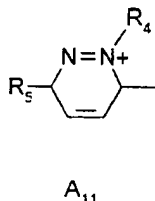
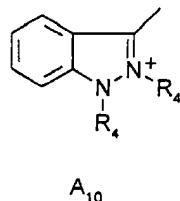
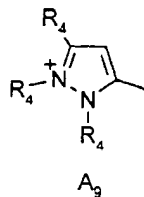
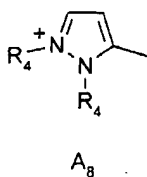
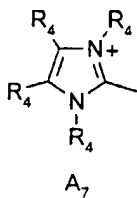
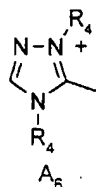
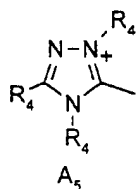
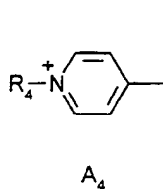
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R₃ and R'₃, which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a cyano radical; a C₁-C₄ alkyl radical; a C₁-C₄ alkoxy radical; and an acetyloxy radical,

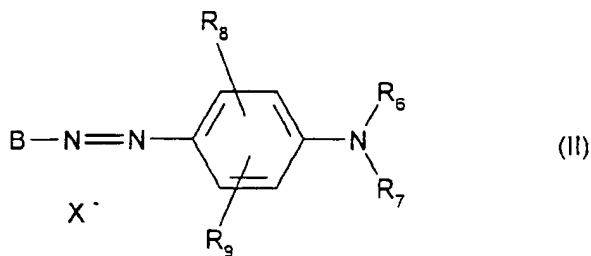
A is a group chosen from the following structures A_1 to A_{19} :



[illegible]

Cc1c(R4)c(R4)n(R4)c1[N+]([R4])= A₁₉[illegible]

b) cationic direct dyes of formula (II):



in which:

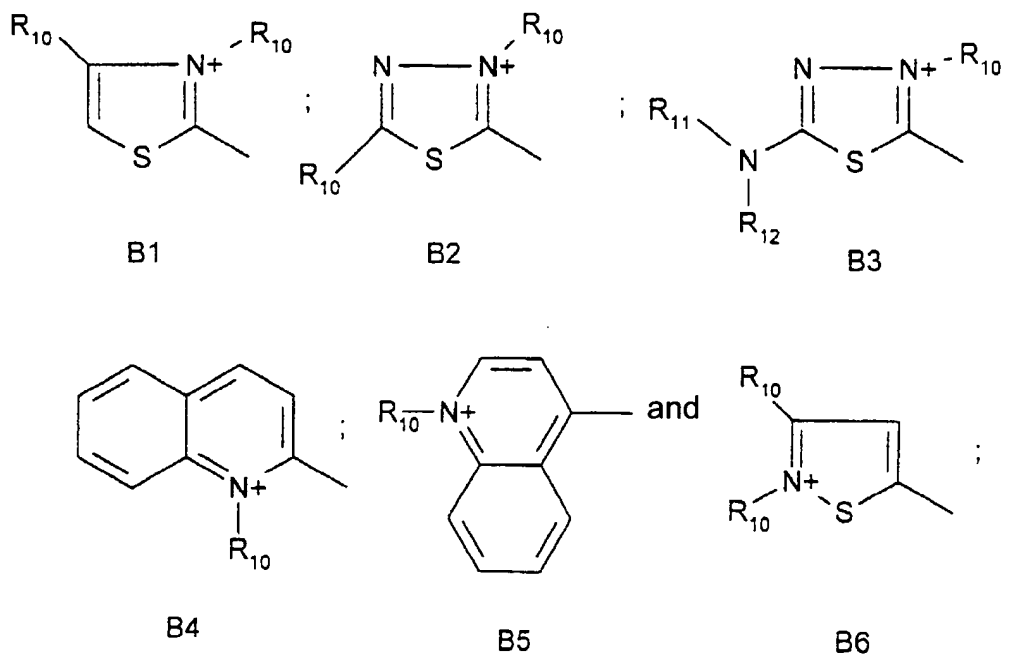
R_6 is a hydrogen atom or a C_1 - C_4 alkyl radical,

R_7 is chosen from a hydrogen atom; an alkyl radical which is unsubstituted or substituted with a -CN radical or with an amino group; and a 4'-aminophenyl radical, or forms with R_6 a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with a C_1 - C_4 alkyl radical,

R_8 and R_9 , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from bromine, chlorine, fluorine, and iodine; a C_1 - C_4 alkyl radical; a C_1 - C_4 alkoxy radical; and a -CN radical,

X^- is an anion,

B represents a group chosen from the following structures B1 to B6:

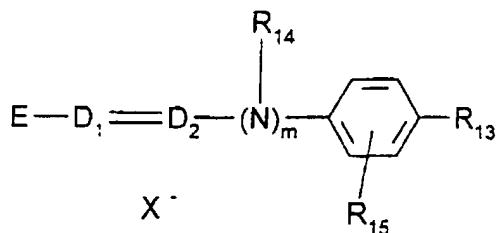


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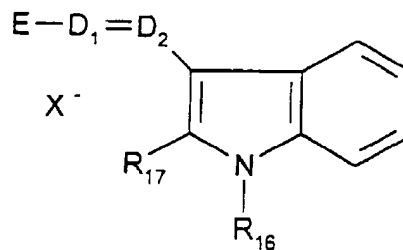
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in which R_{10} is a C_1 - C_4 alkyl radical, R_{11} and R_{12} , which are identical or different, are a hydrogen atom or a C_1 - C_4 alkyl radical;

c) cationic direct dyes of the following formula (III) and formula (III'):



(III)



(III')

in which:

R_{13} is chosen from a hydrogen atom, a C_1 - C_4 alkoxy radical, a halogen atom chosen from bromine, chlorine, fluorine, and iodine; and an amino radical,

R_{14} is a hydrogen atom, a C_1 - C_4 alkyl radical or forms with a carbon atom of the benzene ring a heterocycle which is optionally oxygen-containing and is unsubstituted or substituted with at least one C_1 - C_4 alkyl group,

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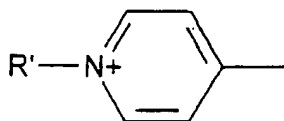
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R₁₆ and R₁₇, which are identical or different, are a hydrogen atom or a C₁-C₄ alkyl radical,

D₁ and D₂, which are identical or different, are a nitrogen atom or a -CH group,

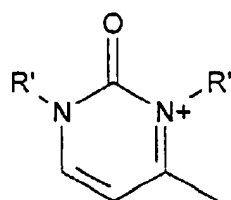
with the proviso that when R_{13} is an unsubstituted amino group, then D_1 and D_2 simultaneously are -CH groups and $m = 0$,

E is a group chosen from the following structures E1 to E8:

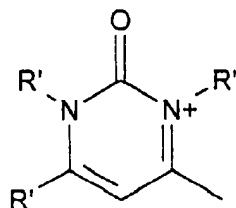


E2

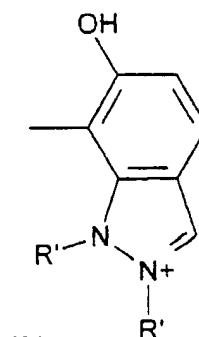
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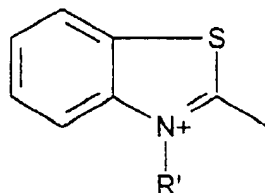
E3



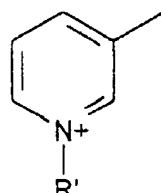
E4



E5

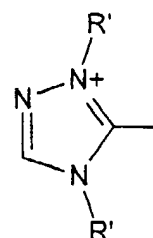


E6



E7

and



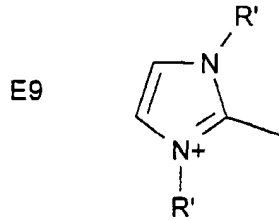
E8

in which R' is a C₁-C₄ alkyl radical;

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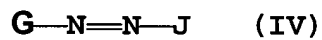
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when $m = 0$ and D_1 is a nitrogen atom, then E may also be a group having the following structure E9:



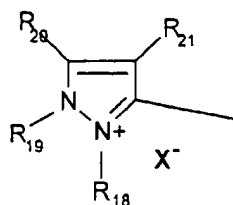
in which R' is a C_1 - C_4 alkyl radical, and

d) cationic direct dyes of formula (IV):

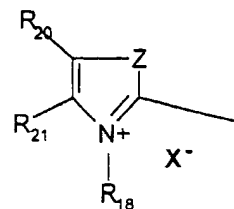


in which:

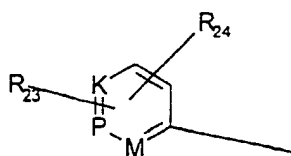
the symbol G is a group chosen from the following structures G_1 to G_3 :



G₁



G₂



G₃

in which structures G₁ to G₃,

R₁₈ is chosen from a C₁-C₄ alkyl radical; a phenyl radical which is unsubstituted or substituted with a C₁-C₄ alkyl radical or with a halogen atom chosen from chlorine, bromine, iodine and fluorine;

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R₁₉ is a C₁-C₄ alkyl radical or a phenyl radical;

R₂₀ and R₂₁, which are identical or different, are chosen from a C₁-C₄ alkyl radical and a phenyl radical, or form together in G₁ a benzene ring which is substituted with at least one radical chosen from C₁-C₄ alkyl, C₁-C₄ alkoxy and NO₂ radicals, or form together in G₂ a benzene ring which is optionally substituted with at least one radical chosen from C₁-C₄ alkyl, C₁-C₄ alkoxy and NO₂ radicals;

R₂₀ may also be a hydrogen atom;

Z is an oxygen or sulphur atom or an -NR₁₉ group;

M is a group chosen from -CH; -CR wherein R is C₁-C₄ alkyl; and -NR₂₂(X⁻)_r;

K is a group chosen from -CH; -CR wherein R is C₁-C₄ alkyl; and -NR₂₂(X⁻)_r;

P is a group chosen from -CH; -CR wherein R denotes C₁-C₄ alkyl; and -NR₂₂(X⁻)_r where r is zero or 1;

R₂₂ is chosen from an O⁻ atom, a C₁-C₄ alkoxy radical and a C₁-C₄ alkyl radical;

R₂₃ and R₂₄, which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a C₁-C₄ alkyl radical; a C₁-C₄ alkoxy radical; and an -NO₂ radical;

X⁻ is an anion;

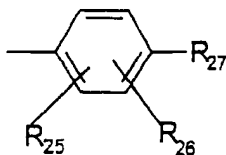
wherein J is chosen from:

-(a) a group having the following structure J₁:

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J₁

in which structure J₁,

R₂₅ is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a C₁-C₄ alkyl radical; a C₁-C₄ alkoxy radical; and a radical chosen from -OH, -NO₂, -NHR₂₈, -NR₂₉R₃₀, and -NHCO(C₁-C₄alkyl), or forms with R₂₆ a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen and sulphur;

R₂₆ is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a C₁-C₄ alkyl radical; and a C₁-C₄ alkoxy radical, or forms with R₂₇ or R₂₈ a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen or sulphur;

R₂₇ is chosen from a hydrogen atom, an -OH radical, an -NHR₂₈ radical, and an -NR₂₉R₃₀ radical;

R₂₈ is chosen from a hydrogen atom, a C₁-C₄ alkyl radical, a C₁-C₄ monohydroxyalkyl radical, a C₂-C₄ polyhydroxyalkyl radical, and a phenyl radical;

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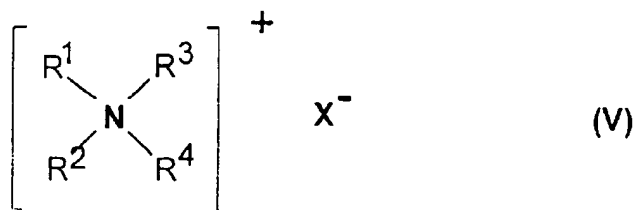
R₂₉ and R₃₀, which are identical or different, are chosen from a C₁-C₄ alkyl radical, a C₁-C₄ monohydroxyalkyl radical, and a C₂-C₄ polyhydroxyalkyl radical; and

-(b) a 5- or 6- membered nitrogen-containing heterocycle group which optionally contains additional heteroatoms, carbonyl-containing groups, or a mixture of additional heteroatoms and carbonyl-containing groups and which is unsubstituted or substituted with at least one radical chosen from C₁-C₄ alkyl, amino and phenyl radicals, and

wherein said second composition comprises, in a medium suitable for dyeing, at least one oxidizing agent; and

wherein either said first composition or said second composition further comprises at least one quaternary ammonium salt chosen from:

(ii)₁ - quaternary ammonium salts of the following formula (V):

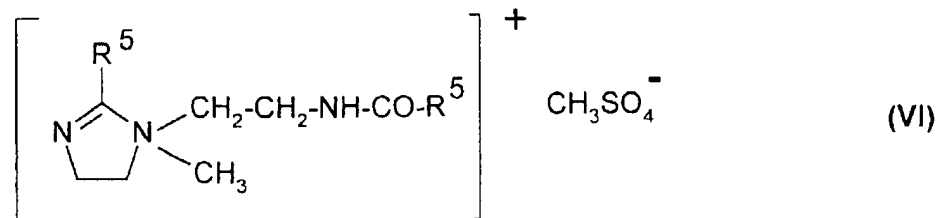


in which

the radicals R^1 , R^2 , R^3 , and R^4 , which are identical or different, are chosen from a saturated or unsaturated, linear or branched, aliphatic hydrocarbon radical comprising 1 to 30 carbon atoms; and a radical chosen from alkoxy, alkoxycarbonylalkyl, polyoxyalkylene, alkylamido, alkylamidoalkyl, hydroxyalkyl, aromatic, aryl and alkylaryl radicals comprising 12 to 30 carbon atoms, wherein at least one radical among R^1 , R^2 , R^3 and R^4 is a radical comprising 8 to 30 carbon atoms;

X^- is an anion chosen from halides, phosphates, acetates, lactates and alkyl sulphates;

(ii)₂ - imidazolium salts of the following formula (VI):

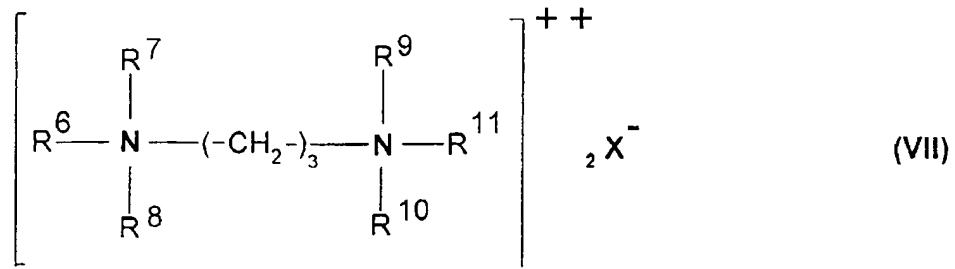


in which

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R^5 is chosen from alkenyl radicals and alkyl radicals, said alkenyl radicals and alkyl radicals comprising 13 to 31 carbon atoms and being derived from tallow fatty acids;

(ii)₃ - quaternary diammonium salts of the following formula (VII):



in which

R^6 is an aliphatic radical comprising 16 to 30 carbon atoms,

R^7 , R^8 , R^9 , R^{10} and R^{11} are chosen from hydrogen or an alkyl radical comprising 1 to 4 carbon atoms, and X^- is an anion chosen from halides, acetates, phosphates and sulphates.

71. A method according to claim 70, wherein said keratinous fibers are human keratinous fibers.

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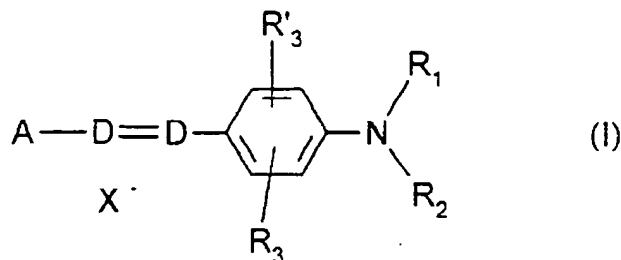
1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082 2083 2084 2085 2086 2087 2088 2089 2090 2091 2092 2093 2094 2095 2096 2097 2098 2099 2100 2101 2102 2103 2104 2105 2106 2107 2108 2109 2110 2111 2112 2113 2114 2115 2116 2117 2118 2119 2120 2121 2122 2123 2124 2125 2126 2127 2128 2129 2130 2131 2132 2133 2134 2135 2136 2137 2138 2139 2140 2141 2142 2143 2144 2145 2146 2147 2148 2149 2150 2151 2152 2153 2154 2155 2156 2157 2158 2159 2160 2161 2162 2163 2164 2165 2166 2167 2168 2169 2170 2171 2172 2173 2174 2175 2176 2177 2178 2179 2180 2181 2182 2183 2184 2185 2186 2187 2188 2189 2190 2191 2192 2193 2194 2195 2196 2197 2198 2199 2200 2201 2202 2203 2204 2205 2206 2207 2208 2209 2210 2211 2212 2213 2214 2215 2216 2217 2218 2219 2220 2221 2222 2223 2224 2225 2226 2227 2228 2229 2230 2231 2232 2233 2234 2235 2236 2237 2238 2239 2240 2241 2242 2243 2244 2245 2246 2247 2248 2249 2250 2251 2252 2253 2254 2255 2256 2257 2258 2259 2260 2261 2262 2263 2264 2265 2266 2267 2268 2269 2270 2271 2272 2273 2274 2275 2276 2277 2278 2279 2280 2281 2282 2283 2284 2285 2286 2287 2288 2289 2290 2291 2292 2293 2294 2295 2296 2297 2298 2299 2300 2301 2302 2303 2304 2305 2306 2307 2308 2309 2310 2311 2312 2313 2314 2315 2316 2317 2318 2319 2320 2321 2322 2323 2324 2325 2326 2327 2328 2329 2330 2331 2332 2333 2334 2335 2336 2337 2338 2339 2340 2341 2342 2343 2344 2345 2346 2347 2348 2349 2350 2351 2352 2353 2354 2355 2356 2357 2358 2359 2360 2361 2362 2363 2364 2365 2366 2367 2368 2369 2370 2371 2372 2373 2374 2375 2376 2377 2378 2379 2380 2381 2382 2383 2384 2385 2386 2387 2388 2389 2390 2391 2392 2393 2394 2395 2396 2397 2398 2399 2400 2401 2402 2403 2404 2405 2406 2407 2408 2409 2410 2411 2412 2413 2414 2415 2416 2417 2418 2419 2420 2421 2422 2423 2424 2425 2426 2427 2428 2429 2430 2431 2432 2433 2434 2435 2436 2437 2438 2439 2440 2441 2442 2443 2444 2445 2446 2447 2448 2449 2450 2451 2452 2453 2454 2455 2456 2457 2458 2459 2460 2461 2462 2463 2464 2465 2466 2467 2468 2469 2470 2471 2472 2473 2474 2475 2476 2477 2478 2479 2480 2481 2482 2483 2484 2485 2486 2487 2488 2489 2490 2491 2492 2493 2494 2495 2496 2497 2498 2499 2500 2501 2502 2503 2504 2505 2506 2507 2508 2509 2510 2511 2512 2513 2514 2515 2516 2517 2518 2519 2520 2521 2522 2523 2524 2525 2526 2527 2528 2529 2530 2531 2532 2533 2534 2535 2536 2537 2538 2539 2540 2541 2542 2543 2544 2545 2546 2547 2548 2549 2550 2551 2552 2553 2554 2555 2556 2557 2558 2559 2560 2561 2562 2563 2564 2565 2566 2567 2568 2569 2570 2571 2572 2573 2574 2575 2576 2577 2578 2579 2580 2581 2582 2583 2584 2585 2586 2587 2588 2589 2590 2591 2592 2593 2594 2595 2596 2597 2598 2599 2600 2601 2602 2603 2604 2605 2606 2607 2608 2609 2610 2611 2612 2613 2614 2615 2616 2617 2618 2619 2620 2621 2622 2623 2624 2625 2626 2627 2628 2629 2630 2631 2632 2633 2634 2635 2636 2637 2638 2639 2640 2641 2642 2643 2644 2645 2646 2647 2648 2649 2650 2651 2652 2653 2654 2655 2656 2657 2658 2659 2660 2661 2662 2663 2664 2665 2666 2667 2668 2669 2670 2671 2672 2673 2674 2675 2676 2677 2678 2679 2680 2681 2682 2683 2684 2685 2686 2687 2688 2689 2690 2691 2692 2693 2694 2695 2696 2697 2698 2699 2700 2701 2702 2703 2704 2705 2706 2707 2708 2709 2710 2711 2712 2713 2714 2715 2716 2717 2718 2719 2720 2721 2722 2723 2724 2725 2726 2727 2728 2729 2730 2731 2732 2733 2734 2735 2736 2737 2738 2739 2740 2741 2742 2743 2744 2745 2746 2747 2748 2749 2750 2751 2752 2753 2754 2755 2756 2757 2758 2759 2760 2761 2762 2763 2764 2765 2766 2767 2768 2769 2770 2771 2772 2773 2774 2775 2776 2777 2778 2779 2780 2781 2782 2783 2784 2785 2786 2787 2788 2789 2790 2791 2792 2793 2794 2795 2796 2797 2798 2799 2800 2801 2802 2803 2804 2805 2806 2807 2808 2809 2

73. A multicompartment dyeing kit wherein a first compartment contains a first composition and a second compartment contains a second composition,

wherein said first composition comprises, in a medium suitable for dyeing, at least one oxidation base and

at least one cationic direct dye chosen from:

a) cationic direct dyes of formula (I):



in which:

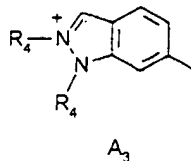
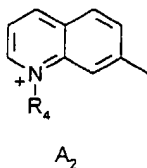
D is a nitrogen atom or a -CH group,

R₁ and R₂, which are identical or different, are chosen from a hydrogen atom; a C₁-C₄ alkyl radical which is unsubstituted or substituted with a -CN, -OH or -NH₂ radical or form with each other or a carbon atom of the benzene ring a heterocycle

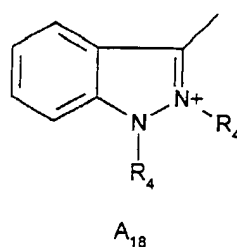
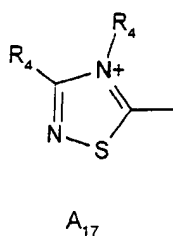
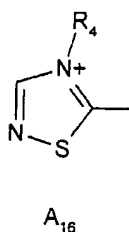
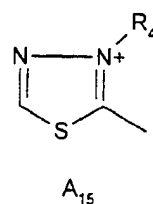
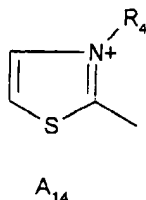
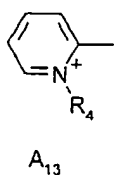
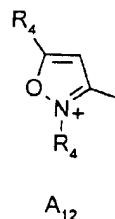
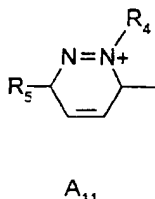
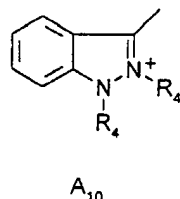
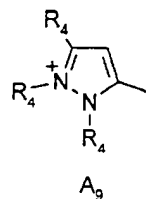
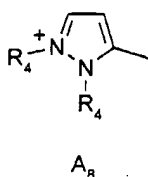
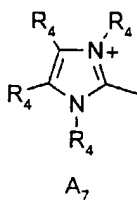
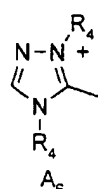
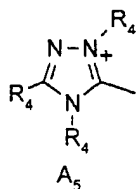
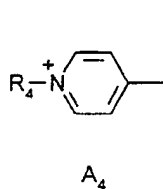
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X^- is an anion,

A is a group chosen from the following structures A_1 to A_{19} :



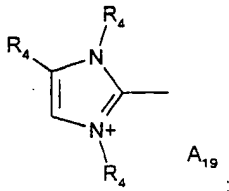
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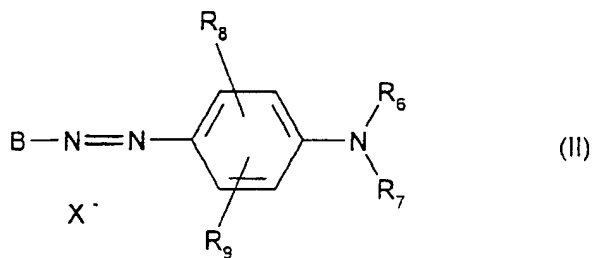
and



in which R₄ is a C₁-C₄ alkyl radical which is unsubstituted or substituted with a hydroxyl radical and R₅ is a C₁-C₄ alkoxy radical,

with the proviso that when D represents -CH, A is A₄ or A₁₃ and R₃ is different from an alkoxy radical, then R₁ and R₂ are not simultaneously hydrogen atoms;

b) cationic direct dyes of formula (II):



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R₈ and R₉ , which are identical or different, are chosen from a hydrogen atom chosen from bromine, chlorine, fluorine, and iodine; a C₁-C₄ alkyl C₄ alkoxy radical; and a -CN radical,

B represents a group chosen from the following structures B1 to B6:



[illegible]
$$\text{E}-\text{D}_1=\text{D}_2-(\text{N})_m-\text{C}_6\text{H}_4-\text{R}_{13}$$

X^-

[R16]N1C(R17)C(=D2)C(=D1)C2c2ccccc2.[X-]

(III')

R₁₃ is chosen from a hydrogen atom, a C₁-C₄ alkoxy radical, a halogen atom chosen from bromine, chlorine, fluorine, and iodine; and an amino radical,

R₁₄ is a hydrogen atom, a C₁-C₄ alkyl radical or forms with a carbon atom of the benzene ring a heterocycle which is optionally oxygen-containing and is unsubstituted or substituted with at least one C₁-C₄ alkyl group,

29
Cont

R_{15} is a hydrogen or halogen atom chosen from bromine, chlorine, fluorine, and iodine,

R_{16} and R_{17} , which are identical or different, are a hydrogen atom or a C_1 - C_4 alkyl radical,

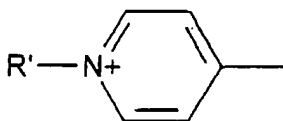
D_1 and D_2 , which are identical or different, are a nitrogen atom or a -CH group,

$m = 0$ or 1 ,

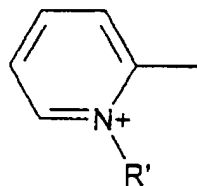
with the proviso that when R_{13} is an unsubstituted amino group, then D_1 and D_2 simultaneously are -CH groups and $m = 0$,

X^- is an anion,

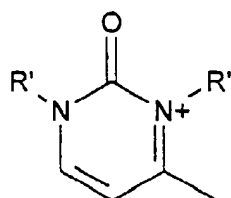
E is a group chosen from the following structures E1 to E8:



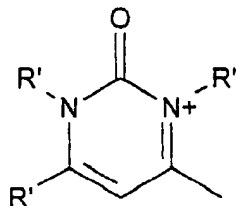
E1



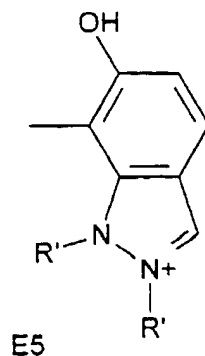
E2



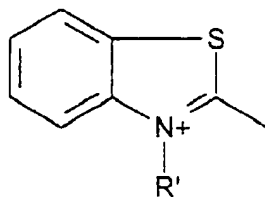
E3



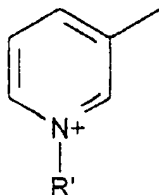
E4



E5

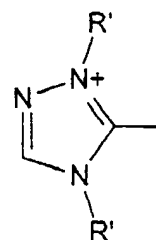


E6



E7

and



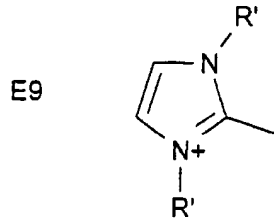
E8

in which R' is a C₁-C₄ alkyl radical;

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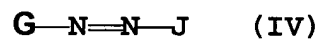
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when $m = 0$ and D_1 is a nitrogen atom, then E may also be a group having the following structure E9:



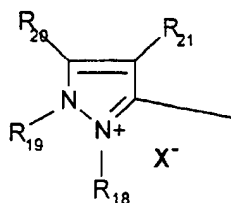
in which R' is a C_1 - C_4 alkyl radical, and

d) cationic direct dyes of formula (IV):

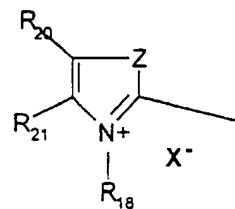


in which:

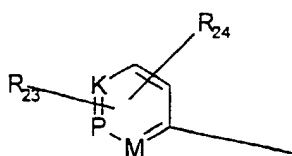
the symbol G is a group chosen from the following structures G_1 to G_3 :



G₁



G₂



G₃

in which structures G₁ to G₃,

R₁₈ is chosen from a C₁-C₄ alkyl radical; a phenyl radical which is unsubstituted or substituted with a C₁-C₄ alkyl radical or with a halogen atom chosen from chlorine, bromine, iodine and fluorine;

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A9 Cont
R₁₉ is a C₁-C₄ alkyl radical or a phenyl radical;

R₂₀ and R₂₁, which are identical or different, are chosen from a C₁-C₄ alkyl radical and a phenyl radical, or form together in G₁ a benzene ring which is substituted with at least one radical chosen from C₁-C₄ alkyl, C₁-C₄ alkoxy and NO₂ radicals, or form together in G₂ a benzene ring which is optionally substituted with at least one radical chosen from C₁-C₄ alkyl, C₁-C₄ alkoxy and NO₂ radicals;

R₂₀ may also be a hydrogen atom;

Z is an oxygen or sulphur atom or an -NR₁₉ group;

M is a group chosen from -CH; -CR wherein R is C₁-C₄ alkyl; and -NR₂₂(X⁻);

K is a group chosen from -CH; -CR wherein R is C₁-C₄ alkyl; and -NR₂₂(X⁻)_r;

P is a group chosen from -CH; -CR wherein R denotes C₁-C₄ alkyl; and -NR₂₂(X⁻)_r where r is zero or 1;

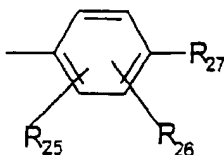
R₂₂ is chosen from an O⁻ atom, a C₁-C₄ alkoxy radical and a C₁-C₄ alkyl radical;

R₂₃ and R₂₄, which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a C₁-C₄ alkyl radical; a C₁-C₄ alkoxy radical; and an -NO₂ radical;

X⁻ is an anion;

wherein J is chosen from:

-(a) a group having the following structure J₁:



in which structure J_1 ,

R_{25} is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a C_1 - C_4 alkyl radical; a C_1 - C_4 alkoxy radical; and a radical chosen from -OH, - NO_2 , - NHR_{28} , - $NR_{29}R_{30}$, and - $NHCO(C_1$ - C_4 alkyl), or forms with R_{26} a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen and sulphur;

R_{26} is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a C_1 - C_4 alkyl radical; and a C_1 - C_4 alkoxy radical, or forms with R_{27} or R_{28} a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen or sulphur;

R_{27} is chosen from a hydrogen atom, an -OH radical, an - NHR_{28} radical, and an - $NR_{29}R_{30}$ radical;

R_{28} is chosen from a hydrogen atom, a C_1 - C_4 alkyl radical, a C_1 - C_4 monohydroxyalkyl radical, a C_2 - C_4 polyhydroxyalkyl radical, and a phenyl radical;

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R₂₉ and R₃₀, which are identical or different, are chosen from a C₁-C₄ alkyl radical, a C₁-C₄ monohydroxyalkyl radical, and a C₂-C₄ polyhydroxyalkyl radical; and

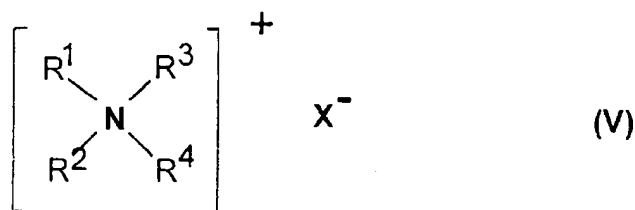
29
Cont

-(b) a 5- or 6- membered nitrogen-containing heterocycle group which optionally contains additional heteroatoms, carbonyl-containing groups, or a mixture of additional heteroatoms and carbonyl-containing groups and which is unsubstituted or substituted with at least one radical chosen from C₁-C₄ alkyl, amino and phenyl radicals, and

wherein said second composition comprises, in a medium suitable for dyeing, at least one oxidizing agent; and

wherein either said first composition or said second composition further comprises at least one quaternary ammonium salt chosen from:

(ii)₁ - quaternary ammonium salts of the following formula (V):

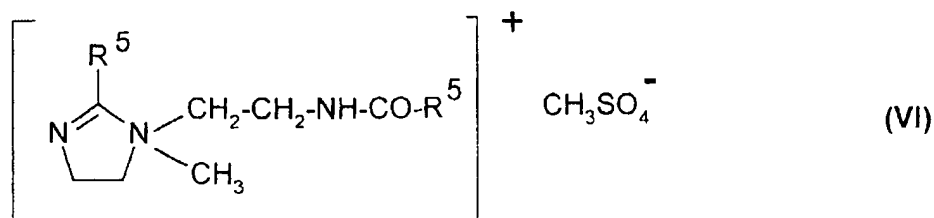


in which

the radicals R¹, R², R³, and R⁴, which are identical or different, are chosen from a saturated or unsaturated, linear or branched, aliphatic hydrocarbon radical comprising 1 to 30 carbon atoms; and a radical chosen from alkoxy, alkoxy carbonyl alkyl, polyoxyalkylene, alkylamido, alkylamidoalkyl, hydroxyalkyl, aromatic, aryl and alkylaryl radicals comprising 12 to 30 carbon atoms, wherein at least one radical among R¹, R², R³ and R⁴ is a radical comprising 8 to 30 carbon atoms;

X⁻ is an anion chosen from halides, phosphates, acetates, lactates and alkyl sulphates;

(ii)₂ - imidazolium salts of the following formula (VI):

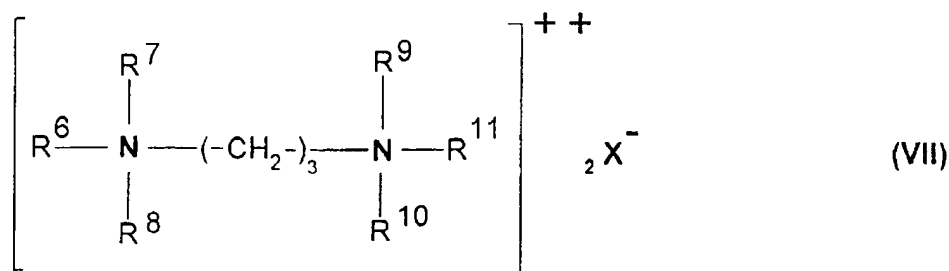


29.1
Cont

in which

R⁵ is chosen from alkenyl radicals and alkyl radicals, said alkenyl radicals and alkyl radicals comprising 13 to 31 carbon atoms and being derived from tallow fatty acids;

(ii)₃ - quaternary diammonium salts of the following formula (VII):



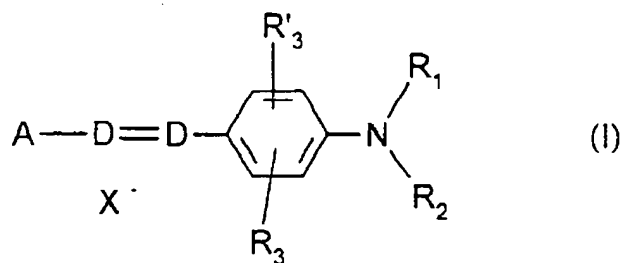
in which

R⁶ is an aliphatic radical comprising 16 to 30 carbon atoms,

R⁷, R⁸, R⁹, R¹⁰ and R¹¹ are chosen from hydrogen or an alkyl radical comprising 1 to 4 carbon atoms, and X⁻ is an anion chosen from halides, acetates, phosphates and sulphates.

74. A multicompartment dyeing kit wherein a first compartment contains a first composition and a second compartment contains a second composition,
wherein said first composition comprises, in a medium suitable for dyeing:
at least one cationic direct dye chosen from:

a) cationic direct dyes of formula (I):



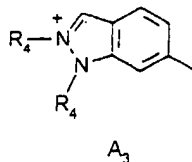
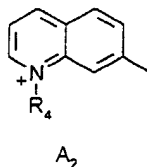
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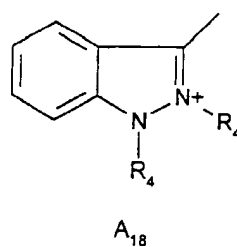
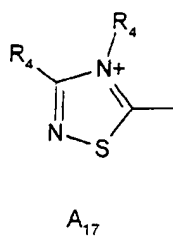
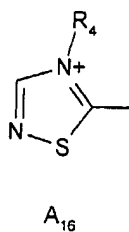
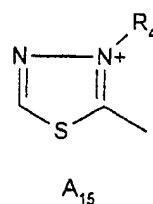
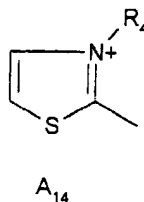
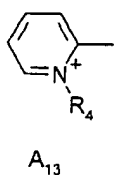
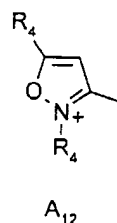
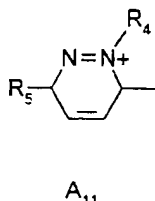
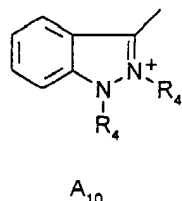
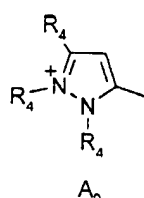
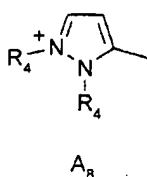
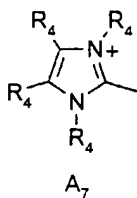
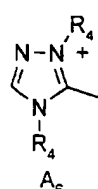
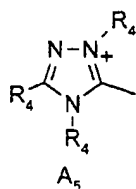
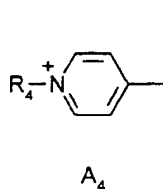
D is a nitrogen atom or a -CH group,

R₁ and R₂, which are identical or different, are chosen from a hydrogen atom; a C₁-C₄ alkyl radical which is unsubstituted or substituted with a -CN, -OH or -NH₂ radical or form with each other or a carbon atom of the benzene ring a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with at least one C₁-C₄ alkyl radical; and a 4'-aminophenyl radical,

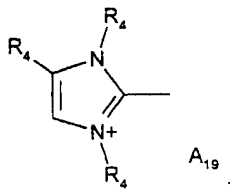
1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082 2083 2084 2085 2086 2087 2088 2089 2090 2091 2092 2093 2094 2095 2096 2097 2098 2099 2100 2101 2102 2103 2104 2105 2106 2107 2108 2109 2110 2111 2112 2113 2114 2115 2116 2117 2118 2119 2120 2121 2122 2123 2124 2125 2126 2127 2128 2129 2130 2131 2132 2133 2134 2135 2136 2137 2138 2139 2140 2141 2142 2143 2144 2145 2146 2147 2148 2149 2150 2151 2152 2153 2154 2155 2156 2157 2158 2159 2160 2161 2162 2163 2164 2165 2166 2167 2168 2169 2170 2171 2172 2173 2174 2175 2176 2177 2178 2179 2180 2181 2182 2183 2184 2185 2186 2187 2188 2189 2190 2191 2192 2193 2194 2195 2196 2197 2198 2199 2200 2201 2202 2203 2204 2205 2206 2207 2208 2209 2210 2211 2212 2213 2214 2215 2216 2217 2218 2219 2220 2221 2222 2223 2224 2225 2226 2227 2228 2229 2230 2231 2232 2233 2234 2235 2236 2237 2238 2239 2240 2241 2242 2243 2244 2245 2246 2247 2248 2249 2250 2251 2252 2253 2254 2255 2256 2257 2258 2259 2260 2261 2262 2263 2264 2265 2266 2267 2268 2269 2270 2271 2272 2273 2274 2275 2276 2277 2278 2279 2280 2281 2282 2283 2284 2285 2286 2287 2288 2289 2290 2291 2292 2293 2294 2295 2296 2297 2298 2299 2300 2301 2302 2303 2304 2305 2306 2307 2308 2309 2310 2311 2312 2313 2314 2315 2316 2317 2318 2319 2320 2321 2322 2323 2324 2325 2326 2327 2328 2329 2330 2331 2332 2333 2334 2335 2336 2337 2338 2339 2340 2341 2342 2343 2344 2345 2346 2347 2348 2349 2350 2351 2352 2353 2354 2355 2356 2357 2358 2359 2360 2361 2362 2363 2364 2365 2366 2367 2368 2369 2370 2371 2372 2373 2374 2375 2376 2377 2378 2379 2380 2381 2382 2383 2384 2385 2386 2387 2388 2389 2390 2391 2392 2393 2394 2395 2396 2397 2398 2399 2400 2401 2402 2403 2404 2405 2406 2407 2408 2409 2410 2411 2412 2413 2414 2415 2416 2417 2418 2419 2420 2421 2422 2423 2424 2425 2426 2427 2428 2429 2430 2431 2432 2433 2434 2435 2436 2437 2438 2439 2440 2441 2442 2443 2444 2445 2446 2447 2448 2449 2450 2451 2452 2453 2454 2455 2456 2457 2458 2459 2460 2461 2462 2463 2464 2465 2466 2467 2468 2469 2470 2471 2472 2473 2474 2475 2476 2477 2478 2479 2480 2481 2482 2483 2484 2485 2486 2487 2488 2489 2490 2491 2492 2493 2494 2495 2496 2497 2498 2499 2500 2501 2502 2503 2504 2505 2506 2507 2508 2509 2510 2511 2512 2513 2514 2515 2516 2517 2518 2519 2520 2521 2522 2523 2524 2525 2526 2527 2528 2529 2530 2531 2532 2533 2534 2535 2536 2537 2538 2539 2540 2541 2542 2543 2544 2545 2546 2547 2548 2549 2550 2551 2552 2553 2554 2555 2556 2557 2558 2559 2560 2561 2562 2563 2564 2565 2566 2567 2568 2569 2570 2571 2572 2573 2574 2575 2576 2577 2578 2579 2580 2581 2582 2583 2584 2585 2586 2587 2588 2589 2590 2591 2592 2593 2594 2595 2596 2597 2598 2599 2600 2601 2602 2603 2604 2605 2606 2607 2608 2609 2610 2611 2612 2613 2614 2615 2616 2617 2618 2619 2620 2621 2622 2623 2624 2625 2626 2627 2628 2629 2630 2631 2632 2633 2634 2635 2636 2637 2638 2639 2640 2641 2642 2643 2644 2645 2646 2647 2648 2649 2650 2651 2652 2653 2654 2655 2656 2657 2658 2659 2660 2661 2662 2663 2664 2665 2666 2667 2668 2669 2670 2671 2672 2673 2674 2675 2676 2677 2678 2679 2680 2681 2682 2683 2684 2685 2686 2687 2688 2689 2690 2691 2692 2693 2694 2695 2696 2697 2698 2699 2700 2701 2702 2703 2704 2705 2706 2707 2708 2709 2710 2711 2712 2713 2714 2715 2716 2717 2718 2719 2720 2721 2722 2723 2724 2725 2726 2727 2728 2729 2730 2731 2732 2733 2734 2735 2736 2737 2738 2739 2740 2741 2742 2743 2744 2745 2746 2747 2748 2749 2750 2751 2752 2753 2754 2755 2756 2757 2758 2759 2760 2761 2762 2763 2764 2765 2766 2767 2768 2769 2770 2771 2772 2773 2774 2775 2776 2777 2778 2779 2780 2781 2782 2783 2784 2785 2786 2787 2788 2789 2790 2791 2792 2793 2794 2795 2796 2797 2798 2799 2800 2801 2802 2803 2804 2805 2806 2807 2808 2809 2810 2811 2812 2813 2814 2

A is a group chosen from the following structures A_1 to A_{19} :





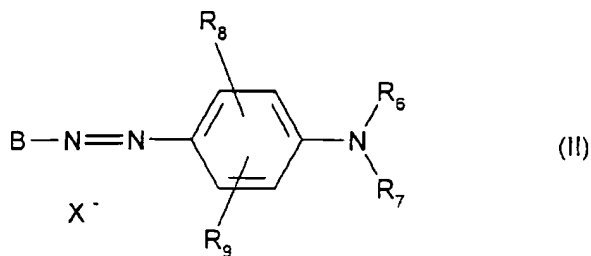
and



in which R₄ is a C₁-C₄ alkyl radical which is unsubstituted or substituted with a hydroxyl radical and R₅ is a C₁-C₄ alkoxy radical,

with the proviso that when D represents -CH, A is A₄ or A₁₃ and R₃ is different from an alkoxy radical, then R₁ and R₂ are not simultaneously hydrogen atoms;

b) cationic direct dyes of formula (II):



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in which:

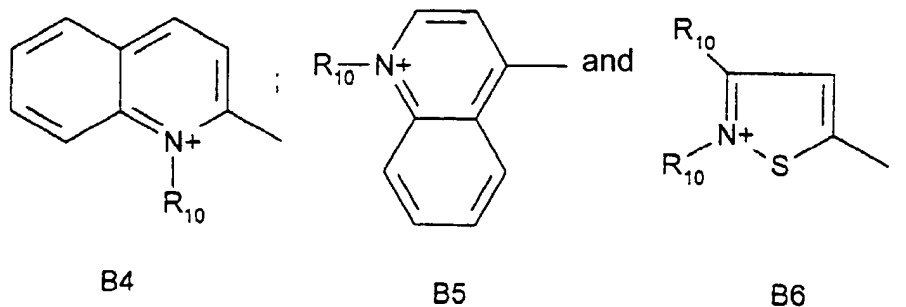
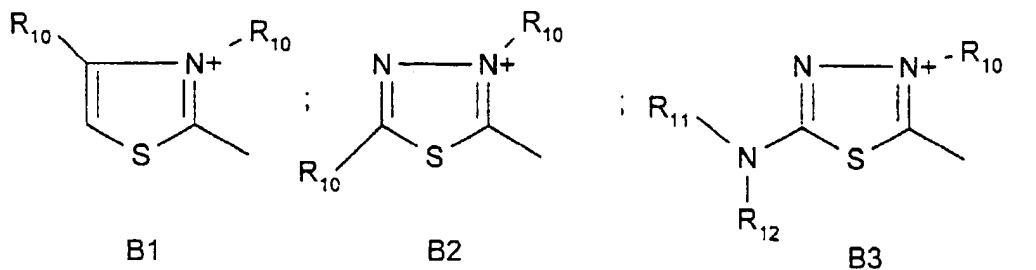
R_6 is a hydrogen atom or a C_1 - C_4 alkyl radical,

R_7 is chosen from a hydrogen atom; an alkyl radical which is unsubstituted or substituted with a -CN radical or with an amino group; and a 4'-aminophenyl radical, or forms with R_6 a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with a C_1 - C_4 alkyl radical,

R_8 and R_9 , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from bromine, chlorine, fluorine, and iodine; a C_1 - C_4 alkyl radical; a C_1 - C_4 alkoxy radical; and a -CN radical,

X^- is an anion,

B represents a group chosen from the following structures B1 to B6:

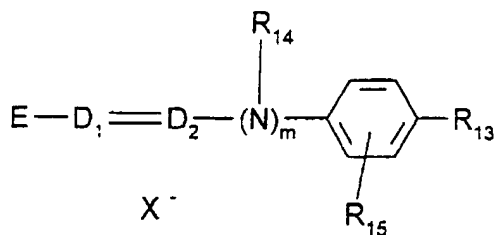


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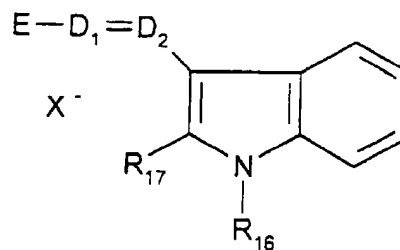
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in which R_{10} is a C_1 - C_4 alkyl radical, R_{11} and R_{12} , which are identical or different, are a hydrogen atom or a C_1 - C_4 alkyl radical;

c) cationic direct dyes of the following formula (III) and formula (III'):



(III)



(III')

in which:

R_{13} is chosen from a hydrogen atom, a C_1 - C_4 alkoxy radical, a halogen atom chosen from bromine, chlorine, fluorine, and iodine; and an amino radical,

R_{14} is a hydrogen atom, a C_1 - C_4 alkyl radical or forms with a carbon atom of the benzene ring a heterocycle which is optionally oxygen-containing and is unsubstituted or substituted with at least one C_1 - C_4 alkyl group,

R_{15} is a hydrogen or halogen atom chosen from bromine, chlorine, fluorine, and iodine,

R_{16} and R_{17} , which are identical or different, are a hydrogen atom or a C_1 - C_4 alkyl radical,

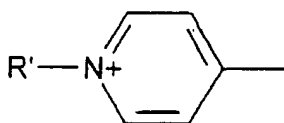
D_1 and D_2 , which are identical or different, are a nitrogen atom or a -CH group,

$m = 0$ or 1 ,

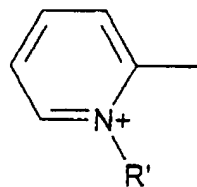
with the proviso that when R_{13} is an unsubstituted amino group, then D_1 and D_2 simultaneously are -CH groups and $m = 0$,

X^- is an anion,

E is a group chosen from the following structures E1 to E8:



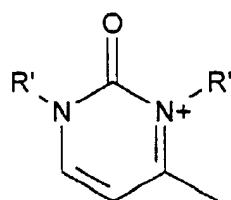
E1



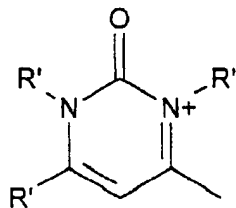
E2

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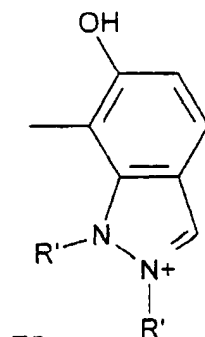
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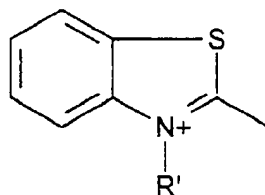
E3



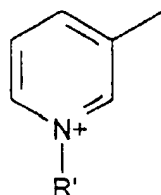
E4



E5

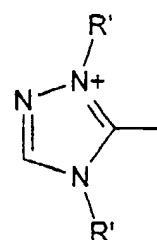


E6



E7

and



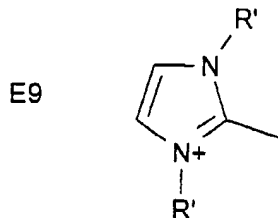
E8

in which R' is a C₁-C₄ alkyl radical;

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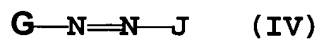
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when $m = 0$ and D_1 is a nitrogen atom, then E may also be a group having the following structure E9:



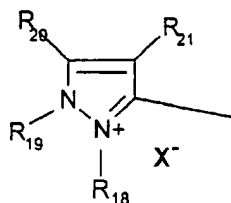
in which R' is a C_1 - C_4 alkyl radical, and

d) cationic direct dyes of formula (IV):

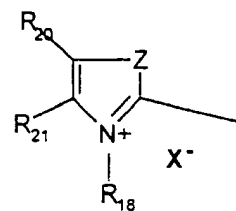


in which:

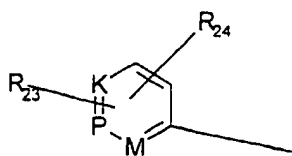
the symbol G is a group chosen from the following structures G_1 to G_3 :



G₁



G₂



G₃

in which structures G₁ to G₃,

R₁₈ is chosen from a C₁-C₄ alkyl radical; a phenyl radical which is unsubstituted or substituted with a C₁-C₄ alkyl radical or with a halogen atom chosen from chlorine, bromine, iodine and fluorine;

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R₁₉ is a C₁-C₄ alkyl radical or a phenyl radical;

R₂₀ and R₂₁, which are identical or different, are chosen from a C₁-C₄ alkyl radical and a phenyl radical, or form together in G₁ a benzene ring which is substituted with at least one radical chosen from C₁-C₄ alkyl, C₁-C₄ alkoxy and NO₂ radicals, or form together in G₂ a benzene ring which is optionally substituted with at least one radical chosen from C₁-C₄ alkyl, C₁-C₄ alkoxy and NO₂ radicals;

R₂₀ may also be a hydrogen atom;

Z is an oxygen or sulphur atom or an -NR₁₉ group;

M is a group chosen from -CH; -CR wherein R is C₁-C₄ alkyl; and -NR₂₂(X⁻);

K is a group chosen from -CH; -CR wherein R is C₁-C₄ alkyl; and -NR₂₂(X⁻)_r;

P is a group chosen from -CH; -CR wherein R denotes C₁-C₄ alkyl; and -NR₂₂(X⁻)_r where r is zero or 1;

R₂₂ is chosen from an O⁻ atom, a C₁-C₄ alkoxy radical and a C₁-C₄ alkyl radical;

R₂₃ and R₂₄, which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a C₁-C₄ alkyl radical; a C₁-C₄ alkoxy radical; and an -NO₂ radical;

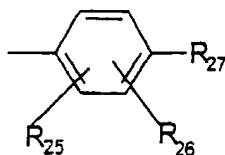
X⁻ is an anion;

wherein J is chosen from:

-(a) a group having the following structure J₁:

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J₁

in which structure J₁,

R₂₅ is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a C₁-C₄ alkyl radical; a C₁-C₄ alkoxy radical; and a radical chosen from -OH, -NO₂, -NHR₂₈, -NR₂₉R₃₀, and -NHCO(C₁-C₄alkyl), or forms with R₂₆ a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen and sulphur;

R₂₆ is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a C₁-C₄ alkyl radical; and a C₁-C₄ alkoxy radical, or forms with R₂₇ or R₂₈ a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen or sulphur;

R₂₇ is chosen from a hydrogen atom, an -OH radical, an -NHR₂₈ radical, and an -NR₂₉R₃₀ radical;

R₂₈ is chosen from a hydrogen atom, a C₁-C₄ alkyl radical, a C₁-C₄ monohydroxyalkyl radical, a C₂-C₄ polyhydroxyalkyl radical, and a phenyl radical;

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R₂₉ and R₃₀, which are identical or different, are chosen from a C₁-C₄ alkyl radical, a C₁-C₄ monohydroxyalkyl radical, and a C₂-C₄ polyhydroxyalkyl radical; and

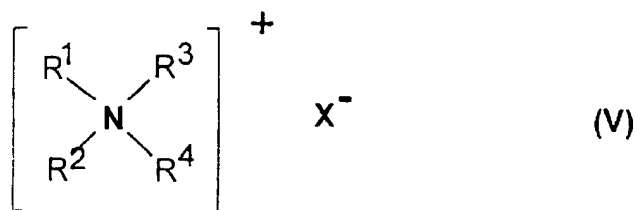
29
Cont

-(b) a 5- or 6- membered nitrogen-containing heterocycle group which optionally contains additional heteroatoms, carbonyl-containing groups, or a mixture of additional heteroatoms and carbonyl-containing groups and which is unsubstituted or substituted with at least one radical chosen from C₁-C₄ alkyl, amino and phenyl radicals, and

wherein said second composition comprises, in a medium suitable for dyeing, at least one oxidizing agent; and

wherein either said first composition or said second composition further comprises at least one quaternary ammonium salt chosen from:

(ii)₁ - quaternary ammonium salts of the following formula (V):



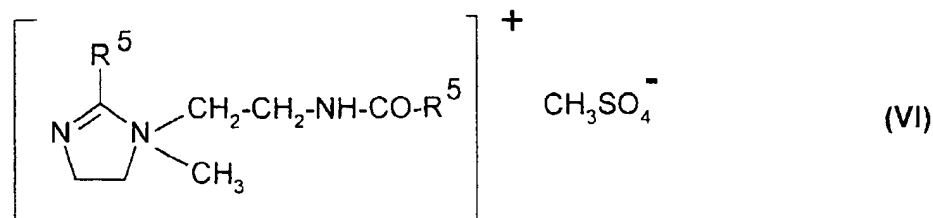
in which

29
Cont

the radicals R^1 , R^2 , R^3 , and R^4 , which are identical or different, are chosen from a saturated or unsaturated, linear or branched, aliphatic hydrocarbon radical comprising 1 to 30 carbon atoms; and a radical chosen from alkoxy, alkoxycarbonylalkyl, polyoxyalkylene, alkylamido, alkylamidoalkyl, hydroxyalkyl, aromatic, aryl and alkylaryl radicals comprising 12 to 30 carbon atoms, wherein at least one radical among R^1 , R^2 , R^3 and R^4 is a radical comprising 8 to 30 carbon atoms;

X^- is an anion chosen from halides, phosphates, acetates, lactates and alkyl sulphates;

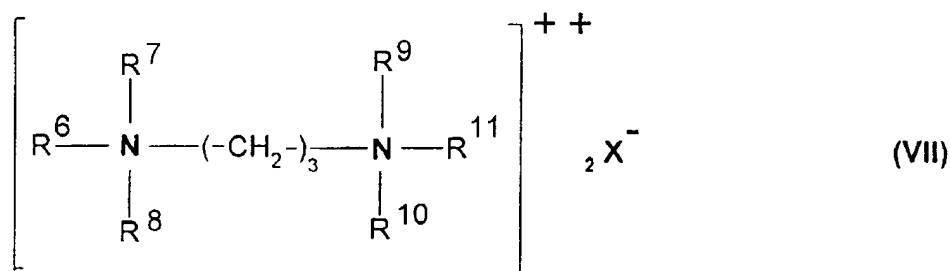
(ii)₂ - imidazolium salts of the following formula (VI):



in which

R⁵ is chosen from alkenyl radicals and alkyl radicals, said alkenyl radicals and alkyl radicals comprising 13 to 31 carbon atoms and being derived from tallow fatty acids;

(ii)₃ - quaternary diammonium salts of the following formula (VII):

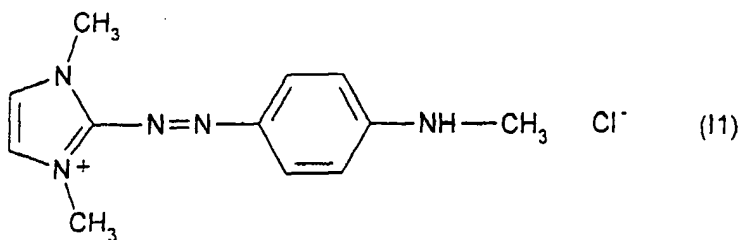


in which

R⁶ is an aliphatic radical comprising 16 to 30 carbon atoms,

R⁷, R⁸, R⁹, R¹⁰ and R¹¹ are chosen from hydrogen or an alkyl radical comprising 1 to 4 carbon atoms, and X⁻ is an anion chosen from halides, acetates, phosphates and sulphates.

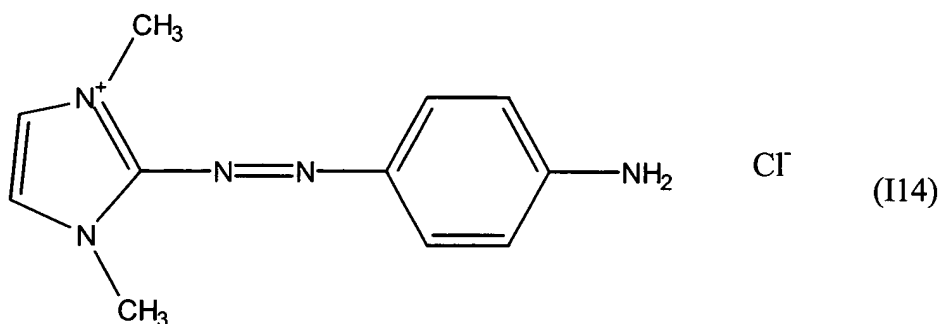
75. A composition for dyeing keratinous fibers, comprising a cationic direct dye
of structure (I1):



and oleocetyldimethylhydroxyethylammonium chloride.

76. A composition for dyeing keratinous fibers, comprising:

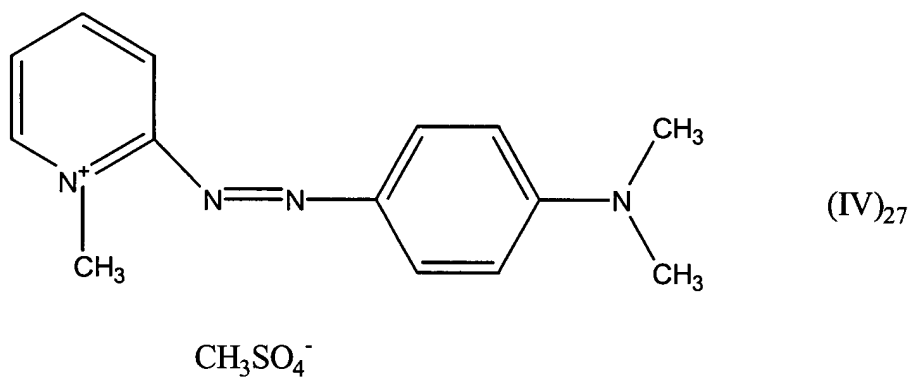
a cationic direct dye of structure (I14):



and behenyltrimethylammonium chloride.

77. A composition for dyeing keratinous fibers, comprising:

a cationic direct dye of structure (IV)₂₇:



and cetyltrimethylammonium chloride.--